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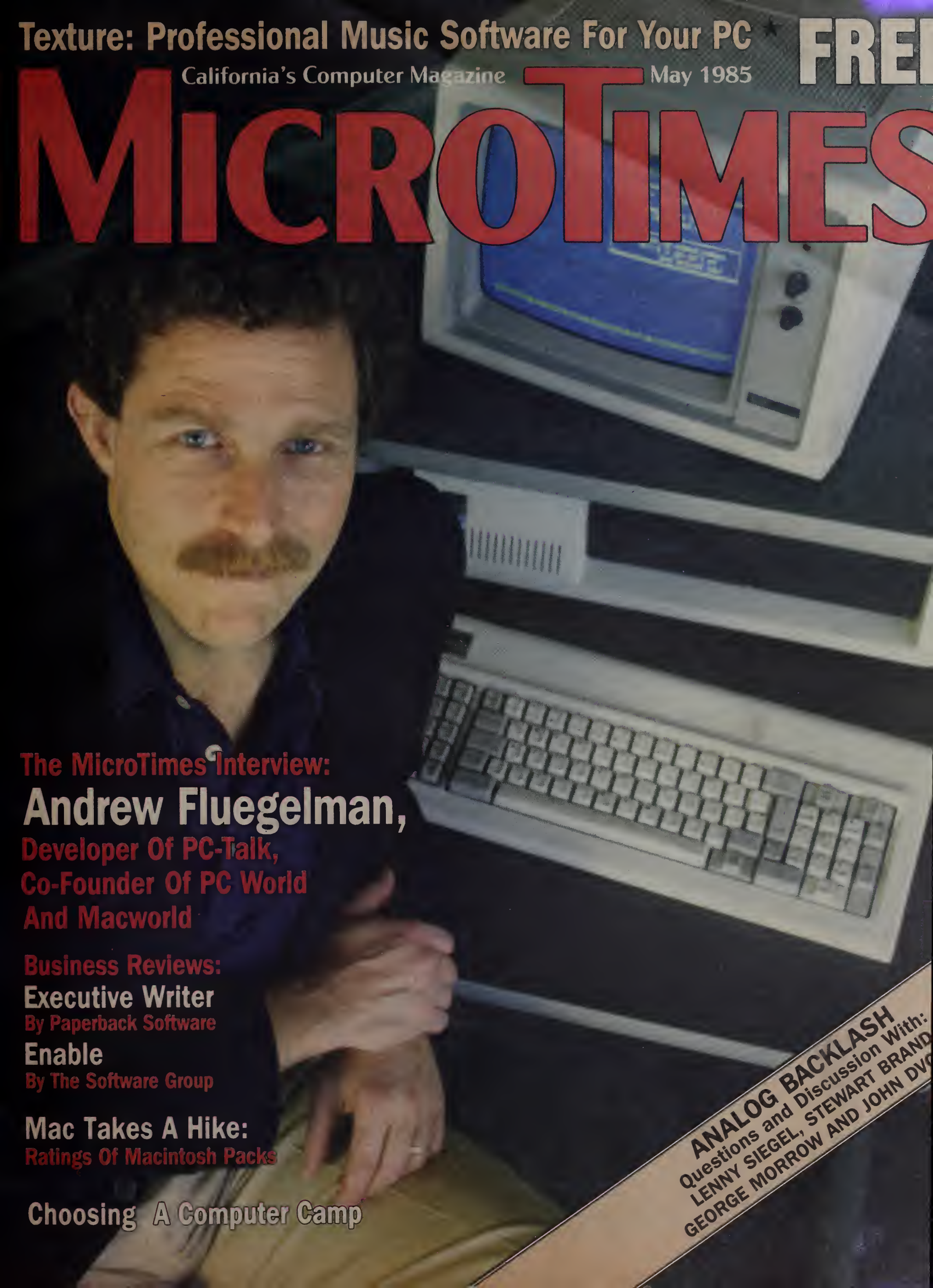
MicroTimes



The MicroTimes Interview:
Andrew Fluegelman,
Developer Of PC-Talk, Co-Founder Of PC World And Macworld

Business Reviews:
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By Paperback Software
Enable
By The Software Group

Mac Takes A Hike:
Ratings Of Macintosh Packs

Choosing A Computer Camp

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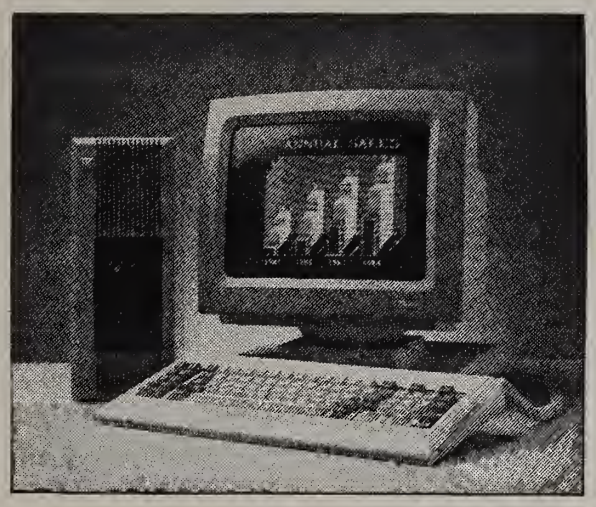

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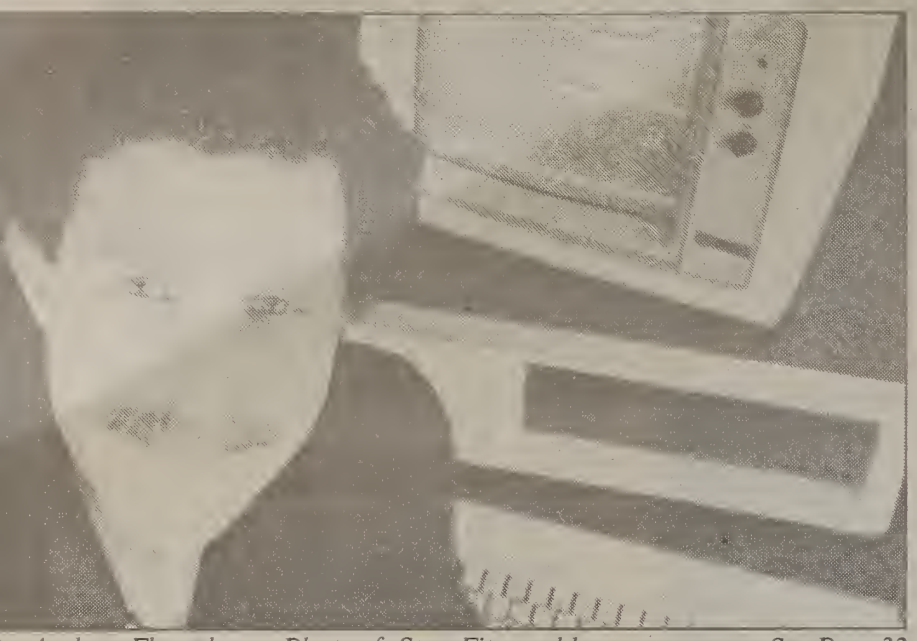

Andrew Fluegelman. Photo: f. Stop Fitzgerald *See Page 32*

This month's cover story features an interview with Andrew Fluegelman, co-founder of *PC World* and *Macworld* magazines and developer of the popular telecommunications program *PC-Talk*. Not bad for someone who'd never touched a computer as recently as 1981, but then Fluegelman isn't one to rest comfortably on past accomplishments. The conversation ranges from Fluegelman's initiation into the computer world to his reflections on the current scene to ideas for future development, all of which shows some perspectives we hope you'll find interesting.

Also in the interesting-perspective department, we've excerpted some of the proceedings from a conference at the recent West Coast Computer Faire. The conference, entitled "Computers: Panacea Or Poison?," dealt with the impact (mundane and futuristic) of computers on our present and future lives, and provided an excellent forum for some distinctly opinionated statements. We've christened this piece "The Analog Backlash," after one of the possible scenarios described in the discussion.

Other stories this time include advice on choosing a computer camp for your child this summer or picking a case for carrying around your Macintosh, a report on the recent activities of Utopia musicians Todd Rundgren and Roger Powell in the computer world, and a visit with Gail Harris, who convinced the management of ComputerLand that computer training could be a profitable business, and now has a thriving concern in the Training Works operation.

Last, but certainly not least, for all you Jina Bacarr/*Sweet Savage Byte* fans, our intrepid heroine is temporarily surrounded by fire-breathing dragons, but expects to have them dispatched with her customary wit and charm and be back with us next month.

Clockwise from upper left: John Dvorak, Lenny Siegel, Stewart Brand, George Morrow. Photos: K. Gypsy Zaboroskie *See Page 48*

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Andrew Fluegelman: *PC-Talk* And Beyond **18**
By Dennis Erokan and Mary Eisenhart
The creator of *PC-Talk*, co-founder of *Macworld* and *PC World*, and developer of the Freeware marketing concept talks about adventures past, present and future.

Log On, Camp Out: Choosing A Computer Camp **30**
By Vanessa Schnatmeier
A survey of computer camps, and advice on how to select the one best suited to your child.

Roger Powell's *Texture*: A Professional Music Software Package For Your PC **38**
By Benjamin Krepack
An interview with keyboardist Roger Powell, who supplements his activities with Utopia by designing musical software; also, a visit with Todd Rundgren, whose lifelong fascination with computers led indirectly to his band Utopia's most recent album cover — designed on a Macintosh.

Gail Harris: Pioneering People-Oriented Computer Training **44**
By Tim Tyler
The story of a bright and enterprising woman who convinced the powers-that-be of ComputerLand that computer training could be profitable, and now has the successful Training Works to prove it.

Mac Takes A Hike *By Ken Goehner* **53**
One of the more unexpected spinoffs from the popularity of Macintosh is a burgeoning industry for the production of Mac carrying cases. This article surveys some of the best packs — and issues dire warnings on what to avoid.

The Analog Backlash—And Other Pitfalls Of The Computer Age **56**
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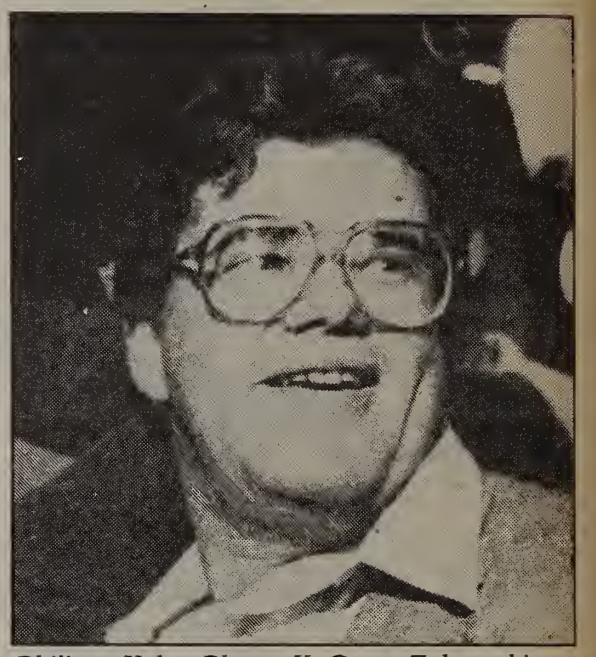
Licensing: The Key To Business Software Success?

According to *The Wall Street Journal* recently, the U.S. Air Force found that it was *not* exactly as easy as 1-2-3 to license 7000 copies of the *1-2-3* program from Lotus Development. It would seem that, no matter how big your purchase or how honest your intent, you will find it almost impossible to license popular computer software.

This may be a bit shortsighted on the part of software developers. It would seem to me that a good licensing/marketing strategy could help a spreadsheet or word processing company to rise to the top of the heap in the contest for office domination. A lot of companies will be buying office automation equipment this year, most of which will include these two basic functions; a significant factor in the company's decision will quite likely be the fact that users of spreadsheet and w.p. programs tend to prefer the system they initially learned on. Further, when the company looks at new systems, it is likely to prefer the new, updated version of the package already in use rather than taking on the monumental task of installing and learning a completely new system.

Realistically, it's hard to find a reviewer who will look at a new program with enough effort and objectivity to discover whether or not it's as great as its manufacturers claim. When the office guru is sent out into the computer store to find a new wordprocessor, he or she is very likely to come back with an improved version of the familiar system. Failing that, many companies are just learning to find the most productive systems for their needs, and are likely to buy the most popular package on the theory that anything that popular *has* to be good.



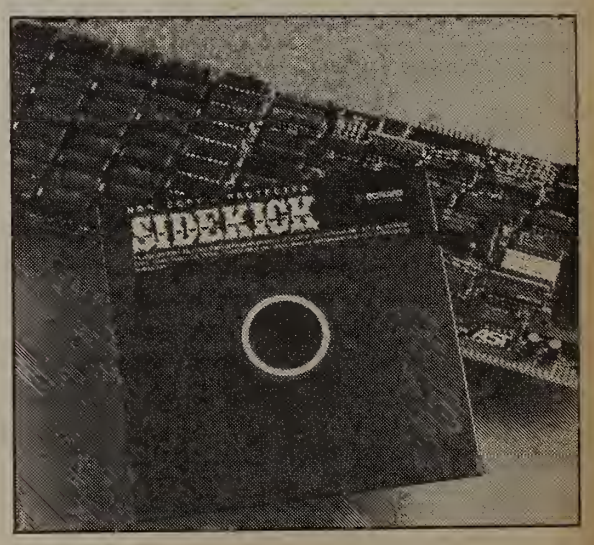
Philippe Kahn. Photo: K. Gypsy Zaboroskie.

AST And Borland's Joint Venture

AST Research and Borland International are teaming up to bring you what Borland founder Philippe Kahn describes as "a product of pigs," that being his chosen phrase to convey the notion that if the best board maker and the best-selling business software get together, the result is going to be the best product available. The first offering is promising: the AST Six Pak Plus will be combined with Borland's *Sidekick* (version 1.5, non-copy-protected and retailing for $84.95). The strategy seems to be to maintain the price of the board at $395 for the 64K version while offering a combined product that's so good it can compete with low-cost boards.

AST has already done $60 million in sales in the first half of this fiscal year, compared to a yearlong total of $60 million last year. Borland is also growing at a phenomenal rate and, according to Kahn, attaining sales figures of $2 million per month. *Sidekick* has already sold 200,000 copies independently and Six Pak Plus 400,000, with current sales of the board estimated at 35-40,000 per month.

What this marriage may mean, if Kahn has his way, is spreadsheets that take advantage of 2Mb of RAM. If this team holds, the product of two first-class companies could be great indeed.



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Mac Affects Office Equipment

GEM, from Digital Research Inc., is going to make a lot of IBMs into Macintoshes. If you haven't seen or used GEM yet, you should; even the hardcore Mac haters have been converting slowly but surely. People who were heard a year ago declaring that the Mac had no redeeming value have been changing their tune and using GEM on their IBMs.

GEM continues the process of office simplification started by Apple. As novice users demand increasingly powerful yet easy-to-use equipment, and as training costs (and re-training costs) continue to climb, offices are being forced to use simpler equipment.

GEM is cheap and simple to use; its documentation is thorough and well-done. As new office communication systems become more prevalent, GEM will be a godsend to novices and the company training account; as many offices are discovering to their cost, a system that's installed with a great flurry of activity and then, several months later, isn't being used because it's too complicated, turns out to be a poor investment.

Contact Digital Research Inc. at 60 Garden Court, P.O. Box DRI, Monterey, CA 93942 for more information, or call (408) 649-3896.

Electronic Arts Is Looking For A Few Good Ideas

You might think that Electronic Arts, with such winners as *Archon*, *Music Construction Set*, *Adventure Construction Set*, and (on the more pragmatic side) *Cut and Paste* and *Get Organized* in its product line, would have become smug and content to rest on its laurels. Such, however, is not the case: according to Terrylynn Pearson of EA, the company is always on the lookout for good, innovative new products, at any stage of development — ideas, prototypes, or programs.

The company's software line supports IBM, Apple, Atari, and Commodore, and covers a wide spectrum of applications from business to education to games. "Our emphasis," says Pearson, "is on a complete range of home computer software: entertainment, education, home productivity, and creativity."

If you've come up with something great that you think might be EA's next success story, contact the company at Electronic Arts, 2755 Campus Drive, San Mateo, CA 94403. Inquiries should be directed to the attention of Chris James.

— ME

PCjr Update

The national bestseller *In Search Of Excellence* describes IBM as an astute company whose closeness to its market has enabled it to find its potential mistakes *before* they reach the public. Well, even the giant stumbles once in awhile; IBM recently announced that it was dropping the PCjr from its line due to lack of market response.

Still, if you just bought a PCjr, don't panic. Your machine is a long way from becoming either a white elephant or a collector's item. IBM sold over a quarter million of the machines, which translates to a lot of software being available now and in the foreseeable future.

IBM still has as many PCjrs unsold as sold, though. I don't think I'd rush out and buy one just now, but on the other hand I wouldn't panic if I owned one. The PCjr sold more pieces than some of the best-selling computers in history.

IN RECEIVING

Ballblazer And *Rescue On Fractalus*

These great games from Lucasfilm had a few birthing problems, but they've finally arrived. Don't miss them if you have an Atari; they are a *must* for all Atari owners. Epyx presents these games in your local software store.

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Pathwords

Pathwords is a game for up to four players. The object is to link adjacent letters to create words from a random pattern. The pattern contains 109 characters and is roughly diamond-shaped. Players try to obtain the longest words possible using high value letters such as Q and Z. The game is somewhat like the old up-down-sideways word search games.

Each new play and each new game generate new random letters to select from. The game also has time limits on each turn. Fortunately.

I am looking forward to the review of this product. This game can be played on an Apple II+/IIe/IIc. The publisher is CBS Software. Check your local stores.

Filevision

Filevision allows you to structure your filing system to look like the real world. You can display information about an object in the picture by pointing to it. You can select a group of objects that have common characteristics. You can change a picture based upon information. You can produce reports of selected information. You can print drawings with items of interest emphasized.

To use *Filevision*, you draw a picture and add information about it. Drawing tools and editing capabilities help you do this easily. Without a doubt, a very interesting product.

Filevision is published by Telos Software Products, 3420 Ocean Park Blvd., Santa Monica, CA 90405.

Total Project Manager

The *Harvard Total Project Manager (HTPM)* is a comprehensive business software tool for managers and professionals. *HTPM* appears to have everything a project manager would need, including a tutorial on how to manage projects. *HTPM* includes Gantt, Pert, critical path activities, report writing, and many other features. The program appears to be a very powerful too; it is serious enough to require 384K of memory. *HTPM* runs on the IBM PC, XT, AT, and PC-compatibles.

HTPM is published by Harvard Software Inc., 521 Great Road, Littleton, MA 01460. Phone (617) 486-8431.

1st Base

1st Base is a file handling and report writing system for the Macintosh. With *1st Base*, you can use the mouse to create your own file designs, edit data, sort on multiple fields, and produce reports from single or joined files. The system also allows you to total columns and subtotal. You can produce statistical summaries and compute with IF...THEN... ELSE logic statements. Reports can be saved and merged with *MacPaint* and *MacWrite*. The package includes one disk and a manual which is over 100 pages long, but seems easy to comprehend.

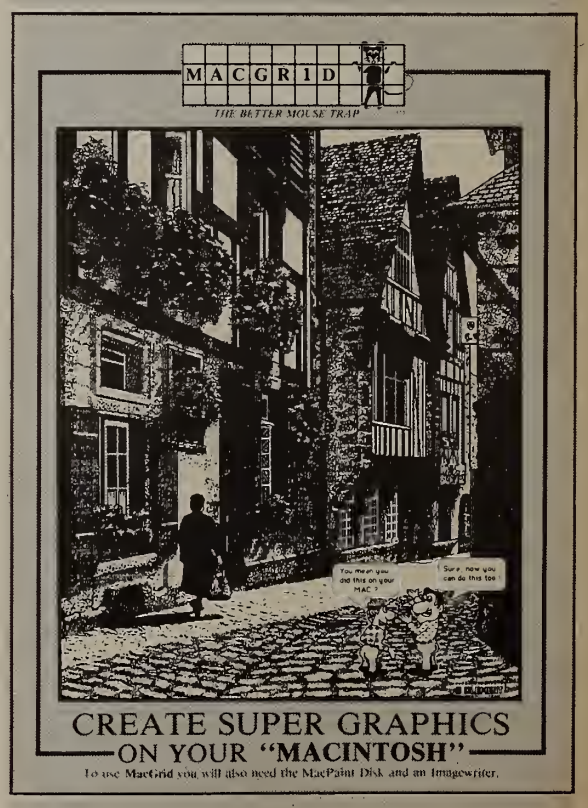
1st Base is from Desktop Software Corporation, 244 Wall Street CN-5287, Princeton, NJ 08540. DeskTop's phone number is (609) 924-7111.

MacGrid: Graphics Aid For Macintosh

MacGrid is designed for those who love *MacPaint* but are having trouble using the mouse for fine detailed work. The package consists of a grid which, superimposed on the Mac's screen, allows the user to break up the drawing surface into small areas for more precise work. MacGrid also includes a tutorial disk, and requires that the user already have not only the Mac itself, but *MacPaint* and an Imagewriter.

MacGrid is manufacturered and marketed by Diablo Valley Design, 4103 Hidden Valley Road, Lafayette, CA 94549, (415) 283-1082.

— ME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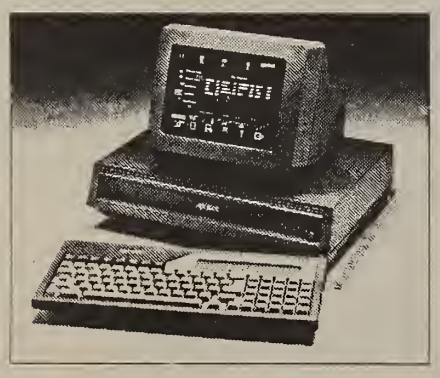

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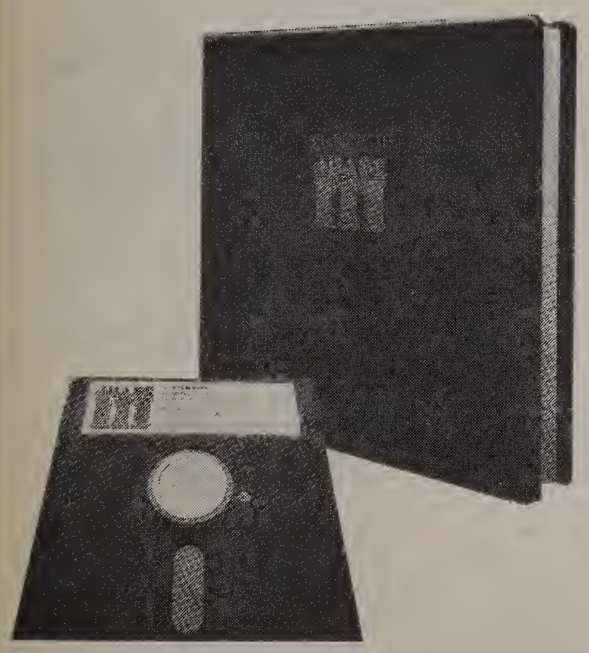

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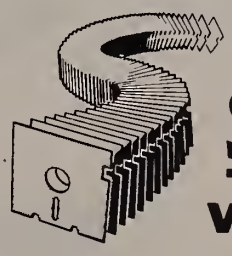

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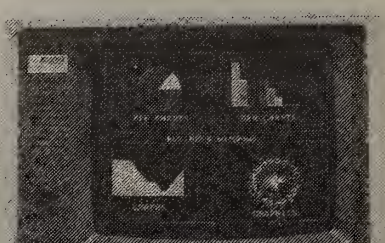

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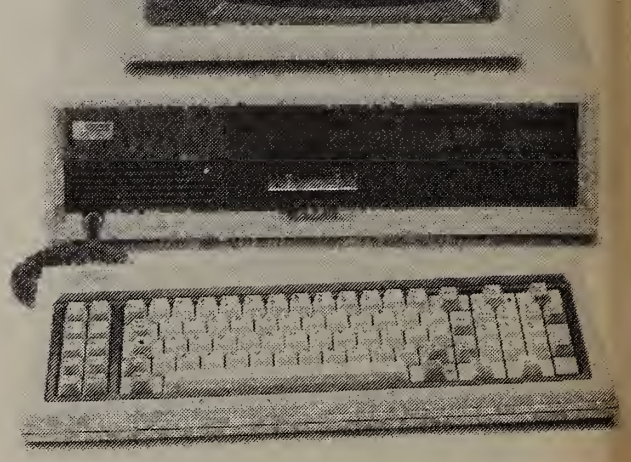

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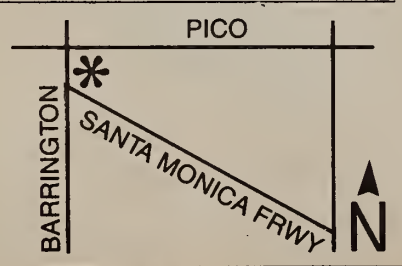

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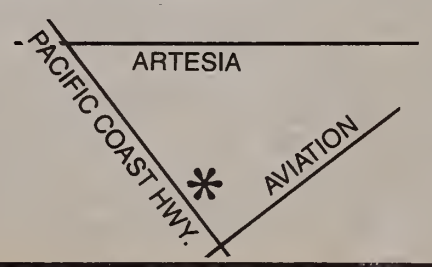

Executive Writer

Published by: Paperback Software
For: IBM & compatibles
Price: $69.95

Executive Writer is the "fully featured" word processing program for the IBM PC and its compatibles from Paperback Software. Everyone knows it's cheap; now how good is it?

Well, it's not perfect, but it's very, very good. What follows is a quick summary of what's good about it and what's not so good about it. Tally up the pluses and minuses and decide for yourself.

Executive Writer is fast. It may take some time to get accustomed to that, but it is a very desirable feature.

The software has a very streamlined appearance on the screen. The definitions of the function keys appear on the bottom row of the screen, and just above them a number of status indicators. While you are editing no menus clutter up the screen.

Executive Writer takes nearly full advantage of the IBM PC keyboard's special features. Instead of using control sequences, commands are introduced with keys like ALT, SHIFT, and CTRL. These keys redefine the ten function keys at the left of the keyboard. Commands are invoked with relatively few keystrokes. *Executive Writer* contains a subset of the *WordStar* cursor movement commands, so it's very easy for someone who knows *WordStar* to pick it up and begin working.

The compact command sequences may be a problem for some typists: you run the risk of inadvertently executing some command that bears no relation to what you are trying to type. So if you're a little clumsy typing in the word "are" you may find that you've typed "Ctrl-re" and that Executive Writer has instantly scrolled you up a screen and you are now blissfully typing away over something you wrote several minutes ago. The compact command sequences and speed that are so often longed for are not unambiguous blessings.

Executive Writer is like every other What-You-See-Is-What-You-Get word processor: it attends to the horizontal features of page layout, chiefly right-hand margin status (whether ragged or justified) while neglecting vertical features of page layout. Thus, things like line spacing are left to print time formatting. This carries through to an absence, which can be annoying, of page, line, column indicators and page breaks.

There is both printed and online documentation. The printed documentation is compact and easy to read. The "online" documentation is helpful and unobtrusive (it may be invoked with a function key at any time). First-time users should have no problem getting acclimated to this product.

The print formatting commands are extensive and versatile. Printer installation should pose no difficulties if you have one of the printers "on the list." Printers not on the list will take longer. Printer configuration also depends in part on the configuration of the operating system, and the documentation is silent on this subject. For the cognoscenti this will not be a problem, but beginners run the risk of a frustrating experience.

Printing cannot be put in the background. There is no way to go on with other commands while printing.

No operating system commands are built into *Executive Writer*: you cannot delete, rename, or copy files without quitting *Executive Writer*.

There are some whiz-bang features that are not here. Decimal tabs and column blocks would be a nice touch, but they are not absolutely necessary. Neither will you find multiple file editing, windows, or mouse support. You will, however, find plenty of good features to make all the writing you do easier.

Executive Writer can be used as either a word processor or a text editor. It may not make good sense to edit large files, but you will be able to edit them with *Executive Writer*. With a file in the 80,000 byte range, certain features slow down considerably, but the product still works.

Executive Writer has an "undelete" facility in the guise of a "recall block" command. The last thing you deleted is held as a block (until you mark something else as a block). This can be recalled at any place in the document.

Global Search and Replace commands have "wildcards" which allow you to search for some string and replace only a portion of it. This is a very fine feature.

Up to ten macro keys can be defined, and these definitions may then be saved, and recalled in subsequent editing sessions.

Executive Writer is not just a generic word processor but a well-thought-out product. If you're looking for a good package to learn word processing from the ground up, or if you're dissatisfied with the word processor you're using now, you should probably take the plunge and check out *Executive Writer*.

— Bennett Falk

2001: A Businessman's Solution

Published by: Financial Information Systems
For: IBM and compatibles
Suggested Retail Price: $3995.00

In the ceaseless battle to manage and control a business, *2001* gives the small- to medium-sized entrepeneur additional ammunition. The complete package is made up of nine integrated modules with a suggested retail of $3995.00 for the entire group. Included in this price is the "2001 Computer," an unidentified co-processor board which fits in the standard slot of any IBM-compatible computer. This hardware device allows faster information processing and gives the program a multi-tasking capability. The real advantage of this is evident to the experienced accounting package user right off: NO BATCHING! Entries are posted (with some minor exceptions) right upon inputting. This is great if you are like me and forever forgetting to post at the end of a session. True, *2001* does require a hard drive, but this allows the program to be totally integrated: one-time entry goes to all the right places. The total program with ample space for data only takes up 6.5 megabytes, so on the standard 10 MB fixed disk there is room for word processing and anything else you might need to put on it. RAM requirement is 256 KB.

There is a complete on-screen tutorial included — which you will probably never use, since *2001* is completely menu driven and has on-screen help available for every screen. The program utilizes most of the standard accounting reports, and also has a built-in report generator which allows for some custom tailoring. With the Job Costing package, the system works well for the construction industry; its database style format allows some estimating capability. Putting the entire system on a Compaq Plus portable gives you a complete unit which is easily transportable from site to site.

Two features which I enjoyed were *2001*'s ability to handle cyclic billing, which is a great help for those of us with a lot on their minds, and the integration feature which feeds right into *Lotus* or *WordStar*.

Soon to come are additional integrated packages: an order entry system for distributors and wholesalers, and a custom application for print shop management (if my print shop would use it, I might get my business cards on time for a change). There is a consumer support line which guarantees a 15-minute callback.

For an individual looking for an accounting package, this is an excellent value and should be considered.

— Kim Nelson

Enable: Version 1.0

Published by: The Software Group
For: IBM & Compatibles — requires 2 disk drives or hard disk
Price: $695; trade-up from *Lotus 1-2-3*, $395; trade-up from *dBaseII*, $395.

As a new computer user, I had been searching for an integrated software package which could do all of the basic business tasks: word processing, spreadsheet, database management, graphics, windows, macros, file management and telecommunications, but I am not, and did not want to become, a programmer. On the other hand, I did not want a package so simple that it would limit my abilities to handle large database tasks or word processing applications. Nor did I want a package so sophisticated I wouldn't be able to master it myself. I knew just enough to get myself into trouble, and was in the painful process of deciding where I was going to have to compromise. Fortunately, I discovered *Enable*.

Enable is a powerful, truly integrated software package which performs almost flawlessly, yet is neither difficult to learn nor a struggle to use. It is both wide in application and deep in sophistication. I was getting ready to buy *Symphony* as an upgrade to the *Lotus 1-2-3* I bought with my Compaq (I was also looking at *Framework*) when someone suggested that I look at *Enable*. Its big advantage is the availability of an upgrade purchase program (from *Lotus 1-2-3*) for $395, rather than the regular retail price of $695. The company also sells *Enable* as an upgrade from *dBaseII* for $395. This seems to be unusual, but they apparently want to grab *Lotus 1-2-3* and *dBaseII* users' attention.

The application components are similar to *Symphony*'s: Spreadsheet/Graphics, Database Management, Word Processing and Telecommunications. The company claims that each application is as powerful as the stand-alone systems which are considered today's benchmarks: *WordStar*, *dBaseII* and *Lotus 1-2-3*; and all easier to use and integrated smoothly. *Enable*'s menus and single-key controls guide the user from function to function, and are used in a logical tree structure to get you from anywhere in the system to anywhere else, yet there are expert commands which allow you to skip past the menus and accomplish complex functions with one to three keystrokes (for example, to save the file you are working on and open a new file, tap F9,S,C). If you have been using other software and are concerned with buying incompatible software, never fear. *Enable* can read files written in *Lotus 1-2-3*, *Visicalc* and DIF format and convert them to its

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own format. It will also read *dBaseII* format files, as well as *WordStar*, *EasyWriter*, *Volkswriter*, and ASCII files. The system can also create an ASCII file and save it to disk for later transfer.

Enable's windowing capability is easy to use to copy data from any window to any other window, including database information into spreadsheet cells. You can open up and use up to 8 windows at one time. Macros can be created anytime to perform complex functions (from boilerplate paragraphs or phrase dictionaries in word processing to elaborate formulas or database sorts). Or, if you regularly transfer database sorts into a spreadsheet after updating inventory information, you can perform the entire task with a single macro key. You can set up profiles for default action on hardware, printing options, and display options, or use different profiles for different hardware configurations. In Telecommunications, you can enter and store as many "set-ups" to different information sources or utilities as you wish. All of the set-up procedures are created by following the step-by-step question and answer process the system guides you through. Even setting up a database has been simplified this way. I am the sort of person who sweats when confronted by an if-then statement, and I was intimidated by users' reports of *dBaseII*'s complexity and programming-type language requirement. I have rarely had to refer to my documentation because of *Enable*'s menu and screen-oriented set-up procedures.

The Database Manager has a 32 field limitation, which allows the format to be *dBaseII* compatible. However, The Software Group will be expanding this on a future update. Input and Report forms are very easy to create, and the database can be interacted with through various commands: Find, Add, Sort, Update, Display, Edit, Copy, Report, Browse, Verify, Merge, Undelete, Replace, Archive, Graph, etc. You can specify any logical "Where" statement and display, sort, or report on any number of fields. Again, all functions operate through extensive menu screens or expert commands. Commands are reached through the F10 key (in database, word processing, telecommunications and spreadsheet), and for *Lotus 1-2-3* users, the slash key (in spreadsheet). The telecommunications system can be configured for any number of different protocol profiles.

In fact, I have found very few things the system cannot do, with the exceptions of proportional spacing support for word processing, double-column printing, and merging of databases. However, these are all features coming out in the first update in May, 1985.

There are built-in tutorials and help messages (via the F1 key), all clearly presented. The documentation is also clear and well indexed. I rarely have any problem finding what I need to know. As a fairly new user, I have a big need for support. Since I bought the software from a dealer who did not know anything about it, I have had to explore the software on my own. The system is well enough organized that I have used the entire system without reading any of the manuals straight through. However, when I come across a snag, the company provides an 800 number for customer service, and these patient and understanding folks have spent up to an hour with me at a time, assisting me with all aspects of the system. I rate their support as outstanding.

Purchasers of the system receive two free updates (which come out every 120 days). For $95, you can register for three additional updates, and become part of the advisory committee for software enhancements.

Integrated systems seem to whip up the same patriotic fervor as programming languages did a few years back. I have seen different people get excited about *Symphony*, *Framework* or waiting for *TopView* to work, rallying friends and family around the user tree. Unfortunately, the same thing has happened to me. I have not gone through the careful cross-comparison I was going to do because I became ecstatic with this software. It ran fairly easily on my 2 diskette system without the need for too much disk swapping (unlike the *InteSoft* system which I tried, which required a ridiculous amount of disk swapping in moving from application to application). However, I now have the system on hard disk and the software is fast and breezy. I have been told that it is written in Assembly, so although it is a "big" system, it will run on a 256K system. The people who developed *Enable* cut their teeth on the development of the Bibliographic Retrieval System for the Library of Congress, and have spent the last 2½ years working on this software.

As a heavy database and word processing user, I have found this integrated system ideal for my business and personal use. My experience and feeling is that *Enable* is worth far more than the $695 retail price, especially considering the tremendous support you get with the purchase. For those who own *Lotus 1-2-3* or *dBaseII* and are considering upgrading to an integrated system, I highly recommend comparing *Enable* to *Symphony* or *Framework* since you can upgrade to *Enable* for $395. *Enable* is copy protected. However, as a subscriber ($95) you can get a non-copy-protected version for transfer to your hard disk at no additional cost, providing you sign a license agreement. The floppy-disk system comes with a back-up disk, and additional back-ups can be ordered. The PR phrase the company uses to promote *Enable* is "Integration Without Compromise." I would agree with that assessment. Check it out. (The Software Group, Northway Ten Executive Park, Ballston Lake, N.Y. 12019, (518) 877-8600).

— Lion Goodman

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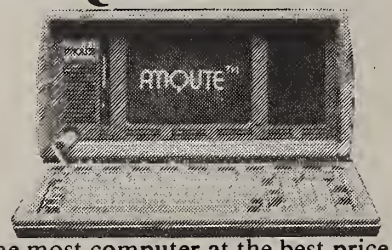

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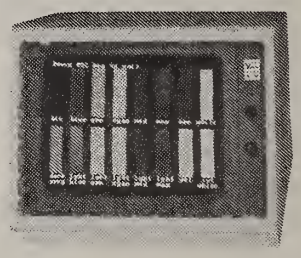

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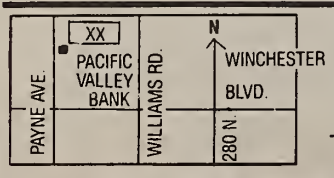

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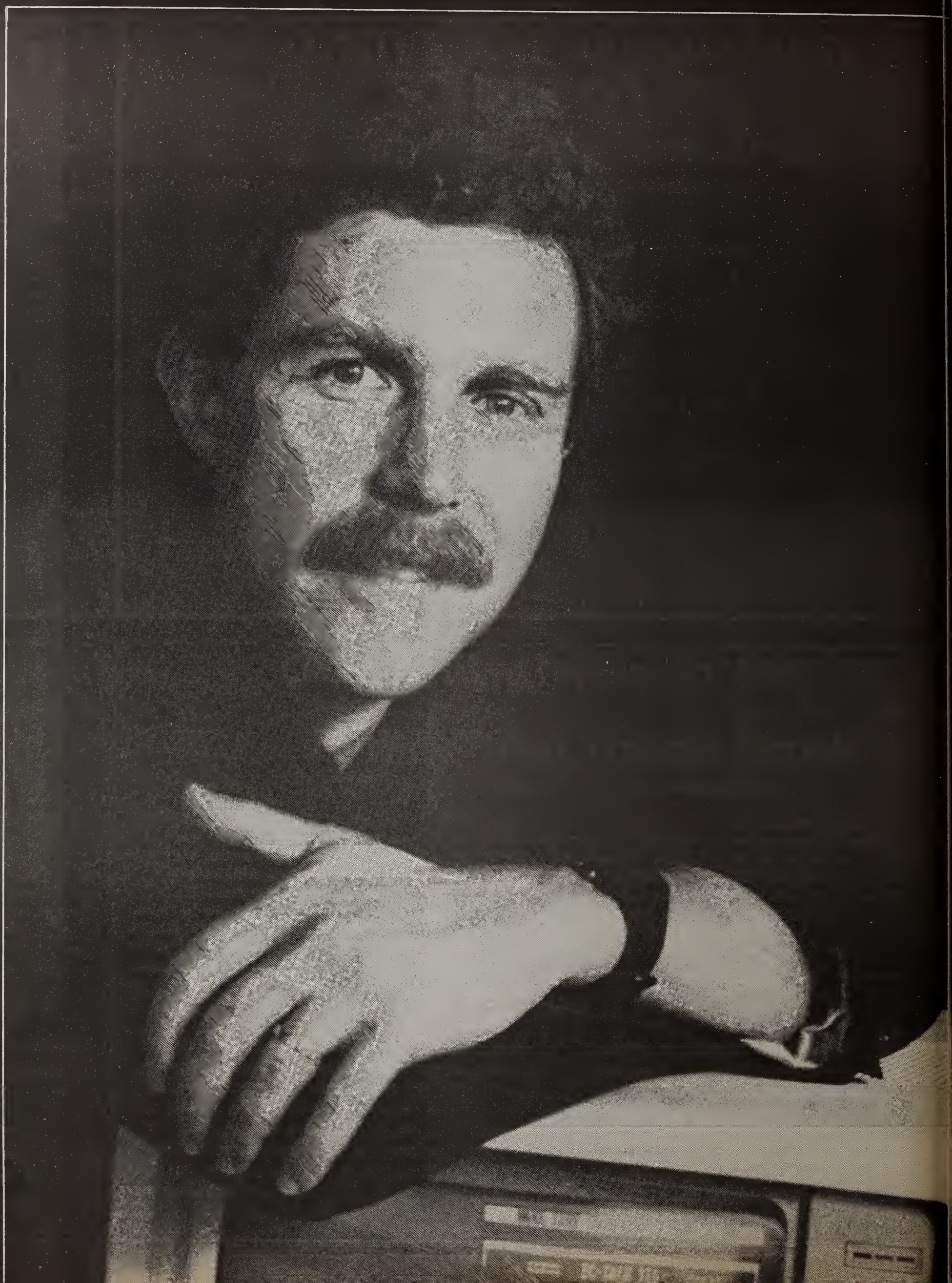

ANDREW FLUEGELMAN

PC-Talk and Beyond

BY DENNIS EROKAN AND MARY EISENHART

PHOTOS BY f. STOP FITZGERALD

ONE SUSPECTS immediately that Andrew Fluegelman never stays bored for very long. Articulate and animated, he conveys a lively sense of interest in whatever new possibilities might crop up.

Consider the last few years. In 1981 Fluegelman, a book publisher by trade, got his first computer. One thing having led to another, he became, in fairly short order, the creator of the critically acclaimed telecommunications program *PC-Talk*, the instigator of the revolutionary and highly successful Freeware marketing concept, and co-founder of *PC World* and *Macworld* magazines. These days he's spending more time exploring new avenues of communications software programming and publishing, though he remains, for the moment at least, reticent about specific works-in-progress.

For his own variation on the theme of Success In The Computer World, thoughts on the PC-vs.-Macintosh controversy, and general reflections on the developing scene, read on.

How did you get into computers?

I was in the publishing business. I was an independent book publisher, and I had done about fifteen different books on all sorts of different topics — football and sushi and travel and photography — and back in 1982 decided it would be fun to do a book about computers for writers. I got a contract from Doubleday to do the book, and I went shopping for a personal computer in the summer of 1981.

The good fortune was that, as I was getting really close to making my buying decision, IBM announced its PC. I took one look at it and I just had this gut feeling — "This is what I want." And I started playing with it.

I believe I got one of the first thousand machines, and at that time there was no software that ran on it at all, not even a word proces-

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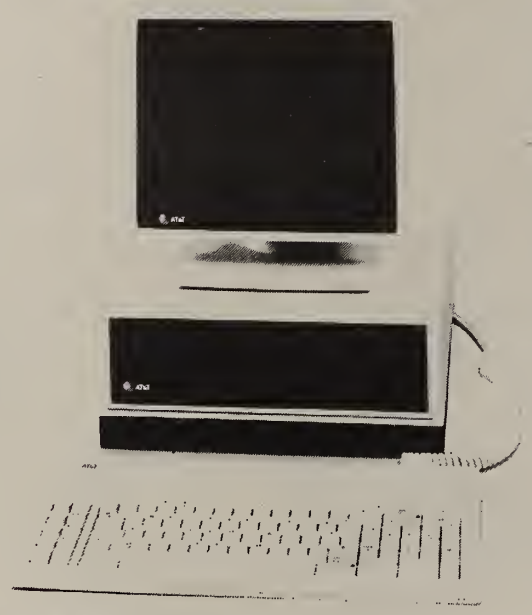

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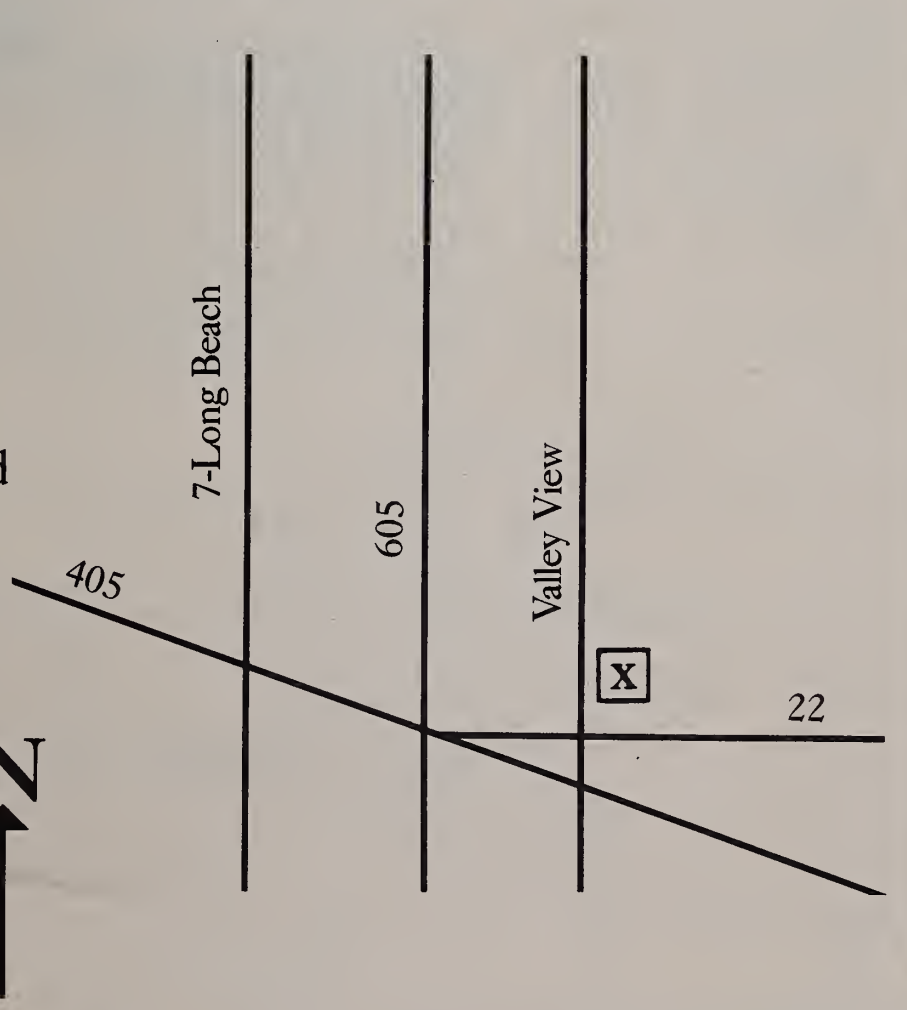

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sor. So all I could do was start programming in BASIC. I spent the first month doing that, and I *loved* it.

Had you ever done anything like that before?

Never touched a computer before in my life.

What kind of programs were you doing?

Well; the first thing I did was — I placed the order for the PC and then I went on a trip back East for a couple of weeks. And you know how when you're on the road you read a lot, so I took with me a book on programming in BASIC. And so I spent my first two weeks learning to program without a computer at all. That was a great help, because it really forced me to get my head into it.

And I got David Ahl's *Book of Computer Games*, and I said, "This is just what I want to do." I typed it all in. It took me a day to get the bugs out and get the thing to run. And as soon as I saw the program running I immediately started thinking, "Well, gee, I'd really like it to add up the scores, and say this, and make a little noise. . ." I looked through the book, and I'd say, "Oh, there's something I could use. . .what happens if I stick it in there?"

I'm a real believer in the Berlitz method of programming. Which is: you learn how to say "Please pass the salt," you look in the dictionary and look up the word for "pepper," stick it in there and say "Please pass the pepper," and by God, someone gives you the pepper. And you know you're making progress. Purely trial and error.

I liked it a lot. I abandoned all bodily functions for about a month.

Eventually a word processor came out, and we started working on the book. I had a co-author who at the time was using a North-Star Horizon — a CP/M machine. When we started the book we had this fantasy that we'd each write half the book and send chapters back and forth, we'd edit them, we'd really use the technology. It was very much a part of the process of doing the book.

And I discovered to my horror that the only communications software that was available for the PC was written by IBM and only allowed your computer to swap files with other PC's or IBM mainframes. This was after I'd had the computer for a couple of months. And I took one look at the code, to see whether I could rewrite it, and it was just hopeless.

So the next morning I sat down, and started out with 10 lines of BASIC code to write a communications program. And in the same way, I got that working, I said, "Gee, I'd really like to do this, and I'd like to do that, and we should have a dialing directory, and we should have some macros. . ." — and I kept just adding to it for my own use.

We eventually typeset the book using the program that I wrote. In the process I gave it to a lot of my friends, and they started using it . . . . And at the time it was the only program that let you do these things on the IBM-PC — this was in the early spring of '82. And inevitably one of my friends said, "You know, you really ought to publish that."

If I hadn't been in the publishing business for eight years, I would have gone ahead on the traditional route — find a publisher, royalties — but I'd *been* through all that, and I'd seen all the pitfalls and all the ways things can get derailed. And this was kind of a new medium, and I was still very exhilarated by it. And I said, having had all this fun, I just can't go the same publishing route that I've gone before.

And the other thing was the whole issue of copy-protection. I heard these stories that people would invest months on devising copy-protection schemes and then in three hours some kid in San Diego figured it out. And I was still just learning how to program the computer —there was no *way* I was going to figure out how to do copy-protection.

At the time KQED [the San Francisco public TV station] was having its pledge drive, and they talked about user-supported television. And in a flash — I was driving across the Golden Gate Bridge, which I think is a power point, I have more inspirations driving across the Golden Gate Bridge [laughs] — and as I was pulling into the toll plaza the word "freeware" popped into my head. And this whole idea of user-supported software: pass it around, don't make people pay for it, let them try it.. . .

"I was driving across the Golden Gate Bridge, and as I was pulling into the toll plaza the world 'freeware' popped into my head: the whole idea of user-supported software, pass it around, don't make people pay for it, let them try it. . . ."

This was the beginning of Freeware. And I said, I'll just set it out there, encourage people to use it. If they like it, I'll ask them to send me some money. Because I really had enough of myself and my ego involved in this package that I wanted some acknowledgement from the world that this thing was worthwhile.

So I sent out the first version of the program that way. I put some notices on The Source and CompuServe: I've got this program, I wrote it, it'll do this and this, and if you want a copy—

I don't even want to have published what my original offer was, because people will inevitably read that and think that's the way you can get it now.

But I said, it's available for free, and if you like it, send me the money. And even if you *don't* like it, *still* make copies for your friends, because maybe *they'll* like it and send some money.

The response was really overwhelming. I almost got driven out of business filling orders. At the time I was still producing books, and software programming was my own late-night thing. And suddenly I was standing there all day filling orders and licking stamps and sending things out, and I had to hire someone to start doing that. It was literally driving me out of business with all this response. I was totally unprepared for it.

The other thing I learned was that while I had written the program to work very well in my own situation, once you start sending software out into the world, you start hearing about people with all sorts of crazy circumstances that you haven't anticipated at all. I think if I had tried to publish this first version of the program commercially, people would've reacted very negatively. But they didn't, because I'd sent it out in this unrestricted way. So people would write back and say, "This is great, but why don't you add this, why don't you try this?" In many cases people even helped me reprogram to deal with their situations. And I ended up calling that "freeback" instead of feedback, because it was really getting this free support back from the community.

Were you getting any money?

Yes. I *was* getting money. I remember on the first day I got a check in the mail, and I just couldn't believe it.

After about a year I collected some of the more ambitious suggestions that people were making and came out with a new version of the program, which is *PC-Talk III*, which is what I'm currently distributing.

I support two people whose business is just to support this program, fill orders, and mainly provide advice to users. Our highest cost of doing business is giving user support.

How many copies of PC-Talk *do you think are out there?*

It's very hard for me to say. I know that when we recently had a *PC World* poll in which people voted for their favorite software program in different categories, *PC-Talk* was rated just below *Crosstalk* and *SmartCom*, which are the two major commercial packages. I would guess that there's about 100,000 copies of those out there, so I've got to figure that there are about that many of mine out there as well.

I'd also guess that somewhere between one and five out of every ten people using the program have actually sent me money for it. When I go to PC shows, I always run into people and they say, "Hey, I owe you $35!"

But it's definitely been successful, and I never really anticipated that it would work out that way.

What does it do?

It's a program for the IBM personal computer and compatibles that allows you to hook your computer up to a modem and send information to another computer, and receive information from another computer. It has a lot of convenience features, which really is what most communications packages do; it has a dialing directory, it lets you set up various parameters based on who you're calling, it lets you program characters and commands that you normally type.

The amount of code that's doing the work is tiny compared to the amount of code that's just making life pleasant for you.

How important are telecommunications to you personally?

I tend to think of two kinds of people in the world: those who have the ability to telecommunicate with each other and those who

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"I'd guess that somewhere between one and five out of every ten people using the program have actually sent me money for it. I always run into people who say, 'Hey, I owe you $35!' "

don't. And I've run into it very graphically in the publishing world from whence I came.

You just quickly assume that if someone anywhere in the country has written something you can get it instantly on your computer and be able to massage it and process it and do what you want. And the thought of having to have someone mail you a manuscript and then having it arrive on paper and having to then deal with it somehow — it really seems like two different worlds.

It's hard for me to imagine dealing with information unless you have the ability to ship it around.

What kind of computers do you use now?

Personally I have a couple of PC's that're all tricked out with lots of memory and hard disks, and I have a 512K Macintosh that I personally prefer to use for writing. I find that the lack of a fan and the smaller hardware make it a more pleasant writing tool.

For really moving data and information around, the PC just has a lot of muscle, and it'll be awhile before the Macintosh does that. So I use them both.

So how did PC World *and* Macworld *come about? There you are with Freeware, and now what happens?*

Well, just at the time all that was going on, *PC* magazine got started here in San Francisco by David Bunnell. I had actually met him a few years earlier; he came to me with a book idea, and at the time my computer horizons were very dim, and we never quite clicked on that.

I ended up writing, for the first issue of *PC* magazine, a review of *EasyWriter*, which was the first word processor for the PC. And that became a kind of notorious review.. . .

You panned it?

I did pan it; it deserved panning. But it was kind of a case of "the Emperor has no clothes." It was a field that I was totally new in, no one knew who I was, I didn't know anybody, I just took this program and I said, "This is terrible," [laughs] "it's not letting me get any work done at all!" And I wrote it up.. . .

It had impact?

Well, eventually IBM recalled the program and fixed it up.

So I started writing reviews, and I enjoyed that too. I found that — again, having been in book publishing for a long time, where you're trying to define your audience, you say, "Well, we'll do a book about sushi; now, who's really going to be *reading* this?" When you're writing about computers, you really know pretty much who your readers are. At least they're defined by the kinds of problems they're dealing with. I found that really liberating and exciting, to be able to write for an audience and know exactly how you could focus on them.

So I enjoyed doing reviews, and I became an associate editor at *PC* magazine for about the eight months that it was in San Francisco. Then there was a whole flap when they got bought by Ziff-Davis; we started *PC World* and at the time David asked me to become editor-in-chief. Which I did.

Why did you all feel you had to leave Ziff-Davis?

Well, that's happened so long ago now that.. . .

Was it just working for a big company?

No, it wasn't just working for a big company. It was the way that Ziff-Davis represented themselves and treated certain people and dealt with what people believed were commitments and representations. It had to do with the way we felt, the way things were seen.

Do you look back in regret at your collective decision not to work with those guys?

No. Not at all.

Do you look back?

Occasionally. [Laughs] Not for long.

The other exciting thing that happened was, right after we started *PC World*, about four months later, we went down to Apple and we ended up seeing the Macintosh. And we decided that this was a very exciting computer, and we wanted to do another magazine about it.

So anyone who would be putting out a truly good product, that would be something that would excite us.

What do you mean by the statement that "computers can be a force for good"?

Well, I think that the easier it is for people to express themselves, and to share their views with others, that's got to be a good democratic force. It makes it easier for us all to publish our ideas, if you use "publish" in the greatest sense.

It also, hopefully, makes it easier for us to assemble the information we need to form our own views. There are many days when I feel that the quantity of information available to us maybe *clouds* our ability to make our own views — we spend so much time collecting it and deciding how we're going to file it away. But I know the intellectual excitement that the machine has caused for me; it's really been a rejuvenation. And anything that gets you that pumped up has got to be something that you can use in a good way.

"Before I got involved, I had this image of the computer nerd, and being closeted away. I *never* have been as socially involved, as interconnected with as many different kinds of people, as when I started getting involved with computers."

How did it come about, given the rivalry between IBM and Apple, that you were suddenly at Apple looking at their newest, most incredible product?

Well, for one, we never had any kind of inside relationship with IBM. I don't know of anyone who does. And we also had a very independent stance vis-a-vis IBM. Witness the review of their program — it was crummy, and we said so.

So I think that we always aligned ourselves, and most closely identified, with users of computers, looking at *their* interests. And when you see a new computer coming that promises to enhance the way people can use computers, make it more efficient, more fun —that's what really appealed to us.

It's easy to like the people at Apple, so it was easy to get into that relationship, but I know for myself and for David, who's been involved in the field for so long — we really believe in computers, we really believe that they can be a force for good. And it does get to be that kind of emotional feeling.

And I also think that the people who *do* get excited about computers and involved in all this are almost uniformly intelligent, interesting people.

One of the surprises for me — before I got involved I had this image of the computer nerd, and being closeted away and all that. I *never* have been as socially involved, as interconnected with as many different kinds of people, as when I started getting involved with computers. So I think that's another force, the ability to make connections. To get on line, talk with someone on the other side of the country, not have to worry about what they look like, how they talk or how they dress, or whatever, and really let their ideas come through. And I hope we keep sharing that.

In publishing Macworld, *how have you been affected by the marketing of Macintosh: the software, the various upgrades?*

We're actually ahead of our projections of where we thought the

PC-Talk and Freeware

The Freeware concept under which *PC-Talk* is marketed differs from public domain distribution. *PC-Talk* is copyrighted software; when a user buys the package for $35, he is granted a license to make copies of the program for others, on the condition that the copies not be sold. If the recipients of the copies like *PC-Talk* and find it useful, they are asked to send the publishers $35 in payment. The honor system has worked amazingly well.

PC-Talk is available by sending $35 to: *PC-Talk*, Headlands Communications Corporation, P.O. Box 862, Tiburon, CA 94920.

If you got a copy from your user group or friends, like it and don't know where to send your money, this is also the proper address.

Headlands will also be announcing future software developments as they become available. For the moment, Fluegelman will say only that the emphasis will be on communications applications, and that some of the software may be aimed at Macintosh users.

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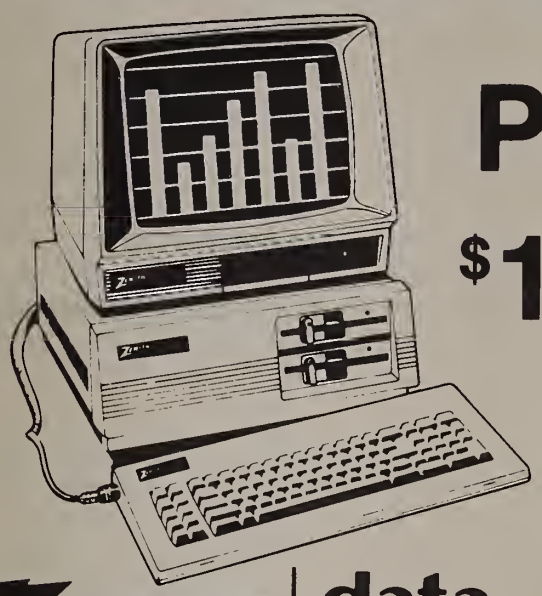

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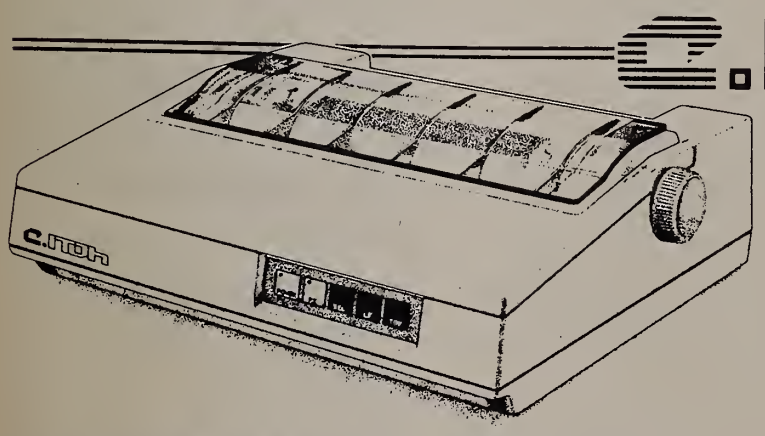

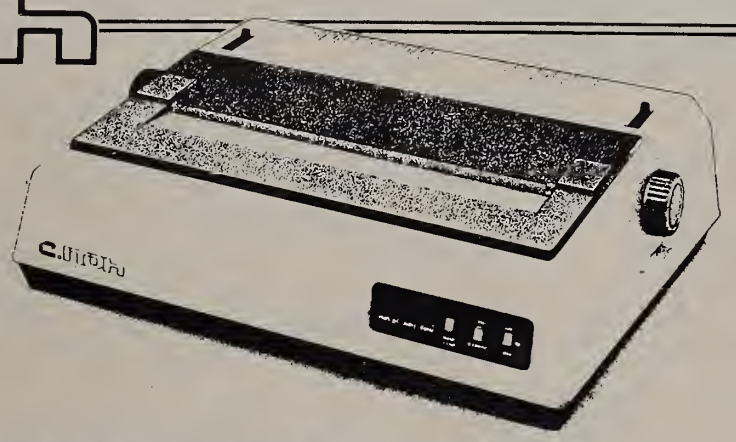

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magazine would be. There are more companies with products, advertising more products; we have a great reader base, they're loyal, they like what we're doing.

I think we provide a service. I think that the Mac itself is due for some criticism. There are some things that don't work great: the way the files are handled on the machine is not great. And we've come out and said that, and hopefully we can try and be a force that can accelerate the process of improving the machine.

It seems like you have to walk a fine line: on the one hand you have to criticize, but you don't want to slam the product so hard that people throw the magazine down in disgust and say, "Forget it, I'm sick of Macintosh." Do you have to worry about alienating the reader from the machine?

I think we definitely have to worry about it. It's something that we're consciously aware of. Having made the decision to publish *Macworld*, we're not going to come out with our premiere issue and say, "Well, it's a crummy computer, not worth your money." That *is* inconsistent with our stance of being a magazine to support the people who have bought into this system.

I think that the Mac *generally* has enjoyed a honeymoon period among the press, and not just among us who have a real connection to it; among the press in general, among users, among software developers. There is some quality to the machine that people respond to, and I think that they have gone out of their way, a little bit, to give it a chance to develop, because they saw the potential there.

Do you *see the potential there?*

Absolutely. I'm a real fan of the Macintosh. It's very exciting.

Do you see a difference between Macintosh people and IBM people? Users?

One would be tempted to say yes. And I think I probably *would* say yes.

The cliche of "artistic types go for the Macintosh, power users go for the IBM"?

I think that it's always dangerous to base too much on cliches. But I think that it does hold up. And I know of some of my PC friends who instantly got intrigued with the Macintosh, and some of my PC friends who still kind of ho-hum about it. People said it's more of a right-brain machine and all that — I think there is some truth to that. I think there is something to dealing in a graphical interface and a more kinetic interface — you're really *moving* information around, you're seeing it move as though it had substance. And you don't see that on a PC. The PC is very much of a conceptual machine; you move information around the way you move formulas, elements on either side of an equation. I think there's a difference.

It's been interesting — when you're involved in this business one of the questions you always get asked is — your old friends come out of the woodwork and eventually they say, "I'm thinking about buying a computer. What kind should I get?" And it's been interesting for me over the past two or three years to note the order of my friends who have come out of the woodwork asking me that question, and what my response was two years ago as opposed to this year. Two years ago all I could say was, "Well, you should probably get a PC." And now that I have the ability to say, "Well, you ought to get a Macintosh," the people who are getting in touch with me are the people that I genuinely *would* say it to. The time had to come when there *was* a Macintosh before they would ask me that question.

I think the most important thing is to realize that computers are tools, that unless you *want* to become involved with becoming an expert programmer, the main thing that a computer provides you is the ability to express yourself. And if it's letting you do that, if you now have hands on those tools, then you can be a force for good out in the world, doing the things that you used to do, that you're still doing — representing your own ideas, not changing your persona to suddenly become a "computer person."

"I think that the most important thing is to realize that computers are tools, that unless you *want* to become involved with becoming an expert programmer, the main thing that a computer provides you is the ability to express yourself."

"It's great to go along for 40 years and still find your life changing and new things happening. It makes you look forward to what's going to happen when you're 60, what's going to happen when you're 80."

And I think that may be the advantage of Macintosh.

How much time do you put into Macworld *as opposed to* PC World*?*

When we put together *Macworld* magazine I stepped away from *PC World*, took three other people from the staff, and we produced it behind closed doors. It was kind of our Manhattan Project. There was a period of four to five months where I was totally involved with getting the first issue of *Macworld* out. When that happened last January [1984], we promoted or moved some editors within our organization and I became editor-in-chief. I was involved in making sure that all the editorial products proceeded, had energy; so I was spending my time about 50-50.

This past January, I changed my title to editorial director, which is a consulting position that freed me of having the day-to-day management responsibility for running the 30 or so people in the two editorial departments. It's exclusively concerned with editorial direction of the two magazines, development of new projects, kind of keeping us on course.

Are there new projects?

We're continuing to look at everything that seems like it might be interesting. We've had two successes so far, and I think that we feel it's important to be able to duplicate those. We're certainly not hungry to start something new just for the sake of doing something new.

The other thing I'm doing now is using some of the free time personally available to me to do some more programming and to take the communications area a little bit farther. The next obvious thing for us to do is come out with a better communications program.

Us meaning PC-Talk*?*

Right.

Does that mean you're severing some of your relation with the magazines?

Only in terms of time. I really just made sure that I had more personal time to do projects. I'm still as involved in the direction of *PC World* and *Macworld*.

Do you see yourself becoming a publisher of software, or is that something you wouldn't be interested in?

I think it's something I *would* want to get into. It's been interesting to realize that many of the experiences you've had in bringing books together can have their counterpart in software publishing.

Should we print a P.O. box for you, in case any of our readers are interested?

I don't know whether I'm ready to open up my doors yet, because when I was a book packager I spent about 25% of my time listening to people with ideas for new products.

I think if some spectacular ideas came along I'd consider them. I would hope that within nine or ten months I would be in a position to more seriously consider them.

It's great to go along for 40 years and still find your life changing and new things happening. It makes you look forward to what's going to happen when you're 60, what's going to happen when you're 80. □

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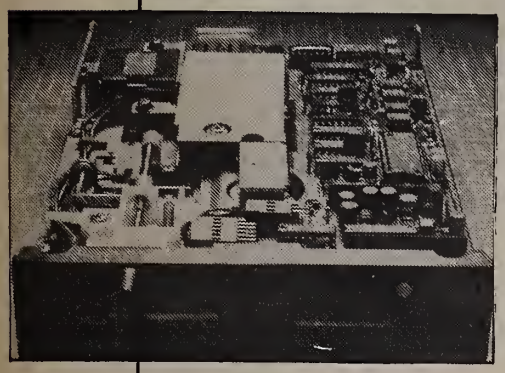

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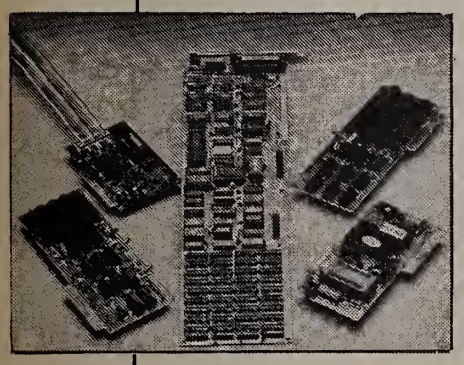

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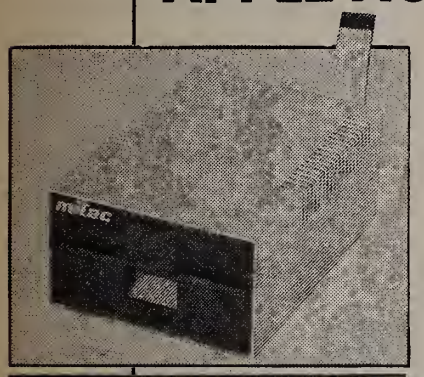

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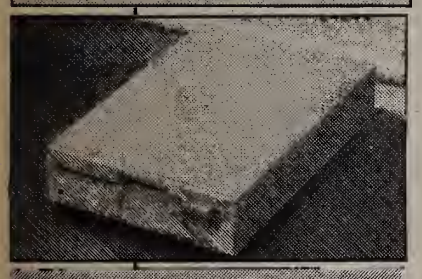

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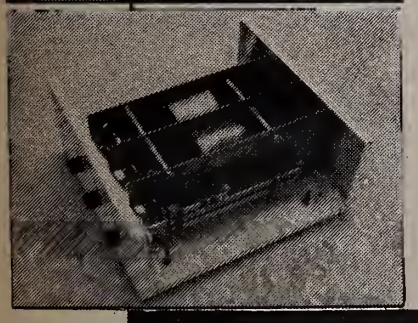

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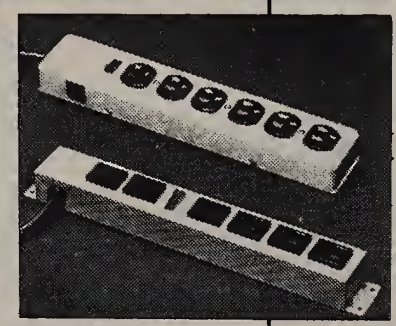

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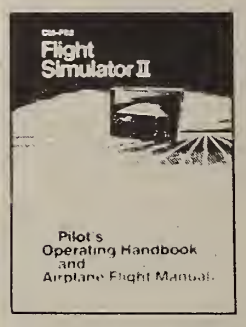

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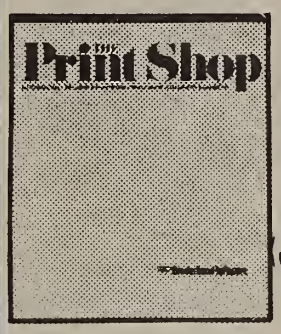

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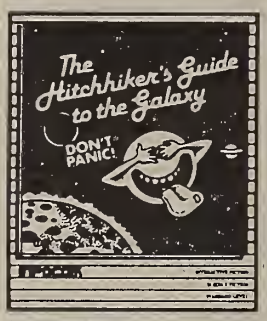

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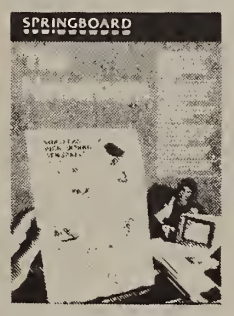

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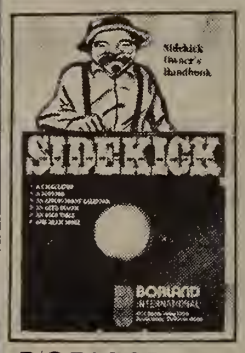

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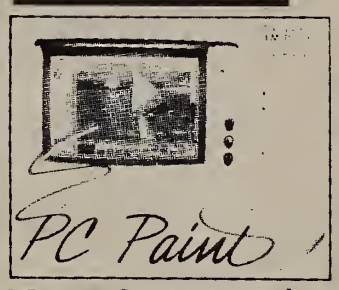

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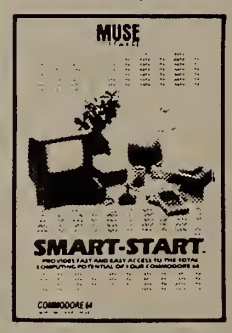

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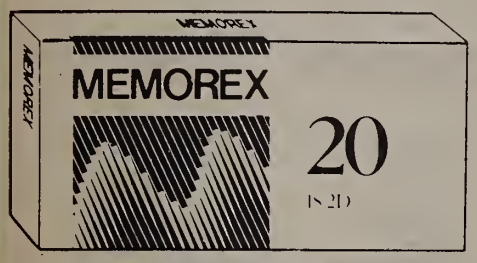

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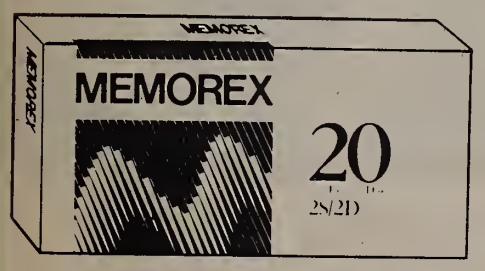

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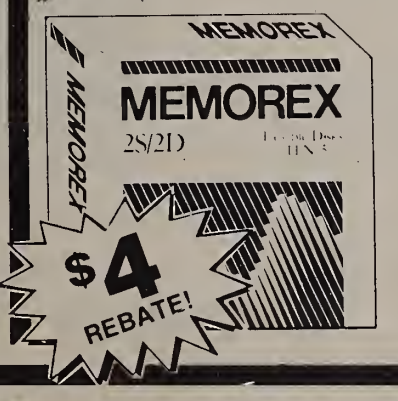

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THE WHEREHOUSE

AT MOST LOCATIONS

LOG ON, CAMP OUT:

Choosing A Computer Camp

Photo courtesy of Data Base Camp

By Vanessa Schnatmeier

If you hurry, your child may be lucky enough to come home this summer with a tanned skin and an improved version of Pascal.

MICROTIMES SURVEY

It's no longer considered *de rigueur* to send your children to a computer camp to make sure they'll be able to carve out a living for themselves when they turn 21. A computer camp is as much a luxury as any other summer camp, and kids won't be thrown out of school if they can't program.

But if your son or daughter is interested in computers, or if you think a better grounding in computers would suit Jane or John, then a couple of weeks in a computer camp can give your child a concentrated dose of computing in a pleasant, supportive atmosphere.

The first thing to realize is that "computer camp" means different things, depending on the ad you read. An ad that lists "COMPUTER CAMP" at the top in large black letters, but in smaller print below says computers are one of the many electives available, usually means a traditional summer camp has some brand-new computer facilities. Computing will probably be taught as a sidelight to the camp's regular activities of swimming, canoeing, drama, and Western lore. There is nothing wrong with this kind of camp if this is what you and your child desire; just don't expect computers to be on the top of the agenda.

Some camps bill themselves as computer camps when in fact they're more computer clinics, not much different from summer school classes. These camps dispense intensive computer instruction, and physical activities play second fiddle; kids may get an hour of swimming or another supervised sport. Again, nothing wrong with this approach — if your son or daughter shows an intense interest in computing, the "immersion" technique will please them.

Other camps strive for a balance; the majority of computer camps offer about 3½ hours a day of computer instruction, with additional "access time" as requested by the child. Mark Zacovic, the executive director for ExperCamp (formerly The Original Computer Camp), vows to do his best to keep campers from slipping into computer worship. He says ExperCamp selects its instructional staff to be versed in sports and outdoor activities as well as computers, and eschews the "pale, bespectacled, greasy-haired" computer nerd. Don Smith of Camp Odyssey says, "We've tried both all-academic and [elective]; we find kids do better with a balance."

Some camps approach the question of balance by combining computers and sports. For instance, at the University of San Francisco, the dual expertise of one instructor permits them to offer a "Computers and Soccer" camp — the computer science teacher captained

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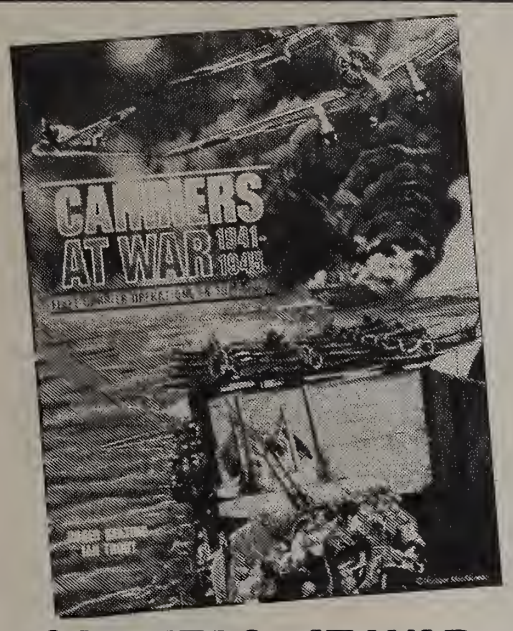

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COMPUTER GAMING WORLD MAGAZINE FEB 85

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MICROTIMES MAGAZINE APRIL 85

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the Greek Olympic soccer squad and continues to coach children's soccer teams. At Meadow Oaks Camp in Calabasas in Southern California, they offer a special "computer analysis sports camp," where children's sports performances are videotaped, digitized, and compared against the digitized performances of world-class athletes — the children learn to do their own digitizing.

The style of computer camp you choose is up to you and your child. Traditional camps with some computer facilities are thick on the ground — just open any newspaper. Because the camps that hoped to cash in on the computer fad have largely faded away, you may find a lot of last year's listings are "not in service at this time." Recommended for further reading (though neither book is updated for this year) are *How To Choose A Computer Camp*, an Alfred Handy Guide by Joseph Cellini, or *The Complete Guide To Computer Camps*, by Mike Benton, published by Bobbs-Merrill.

Don't forget to send your daughter to computer camp! Says Jacqueline Massing of Silicon Valley Computer Camp, "Women are awfully good programmers. If opportunities are really equal, if women are encouraged, then they'll succeed." Many parents tend to think their daughter "just won't be interested," but that's often not the case, especially if you start her before twelve or so. If you don't send your daughter to camp because she's not your son, you're doing her wrong.

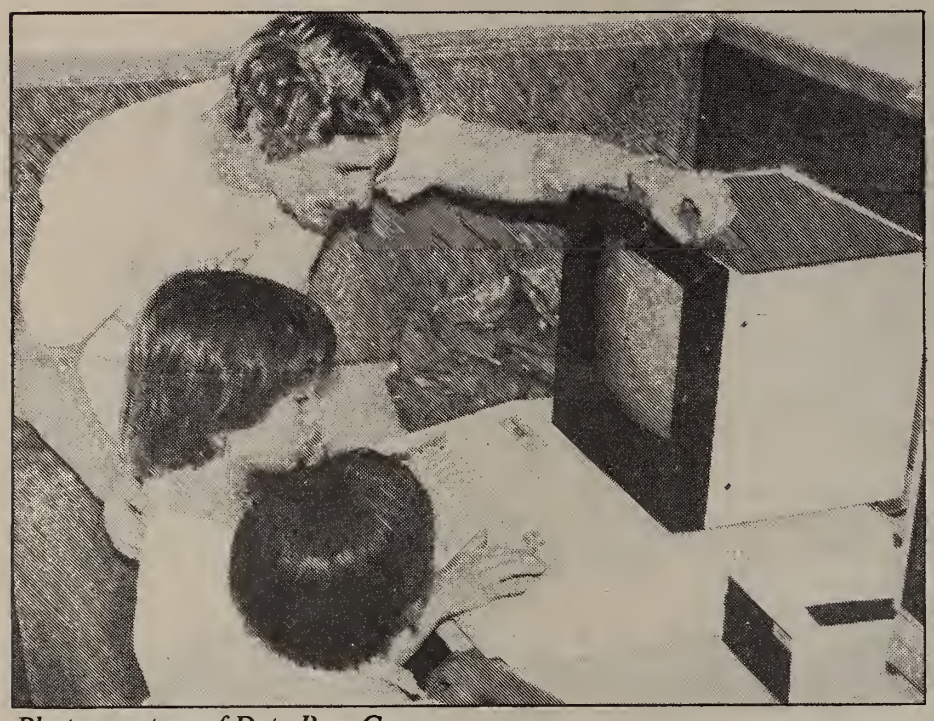

Photo courtesy of Data Base Camp

Photo courtesy of Computer Tutor Camp

JUDGING A COMPUTER CAMP

Run down this checklist to help decide whether a computer camp meets your needs.

1. Are there any hidden costs? Will field trips, lodging, or diskettes mean an added charge? Budget some money for extras, so your child won't have to forgo that commemorative camp T-shirt.

2. Does the camp use the type of computers your child has access to? You can find all-Apple camps, or all-Atari camps, and a few all IBM-PC camps. Other camps use a variety of computers, either because they pride themselves on teaching all brands, or because they could only beg, borrow or lease five or six of each type. Make sure the computer you own is included in the curriculum, but don't dismiss the camp out of hand if other computers are in the package.

3. Is there a good camper/computer and camper/staff ratio? Most camps these days try to seat two campers per computer, at least part of the time. While one camper per computer used to be considered the ideal, experience at most camps has borne out that children teach each other and broaden each other's interests and knowledge. The ideal camper/instructor ratio is around six or eight to one, though some very good camps have ten to one or slightly more. Some camps swear that younger teachers, computer science graduate students, or even returning campers make the best instructors because they're more familiar with up-to-date material. Others proudly announce they only employ certified long-time computer instructors. Almost every camp hires non-certified teachers' aides to lighten the workload, so it balances out.

4. Most important, do you like the curriculum? Get as much information as you can. Some campers' "individualized instruction" means that they work chiefly from workbooks; find out how much time the teachers spend with the campers. You want both solo time and lecture time. Everyone teaches BASIC, and most teach LOGO. Another hot topic is robotics. Many camps let students work with off-the-shelf applications, or write their own games, to lure them into programming.

But whatever camp you choose, contact the camp of your choice as soon as possible. Camps fill up fast, especially in computer-crazy California. Call your local university or college for local day camps, which concentrate on local enrollment. If you hurry, your child may be lucky enough to come home this summer with a tanned skin and an improved version of Pascal. □

Photo courtesy of Data Base Camp

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The AEB-2 allows user to program and work with standard EPROMs (2716, 2732 & 2764). Easy to use, on-board firmware. Menu contains the following options: Write, Read, Copy, Compare, Blank-Check and Monitor. Complete with instructions. Key: (a,b)

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The A80-C is an 80-column card designed for the Apple* II and II+ computers. The card is equipped with a soft switch which allows easy hookup for any monitor. The A80-C also features inverse video capabilities. This card is similar to the Videx*** 80 column card. Complete with instructions. Key: (a)

A80-C. $74.95

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The ASSC-P is a serial card with a printer mode. It generates standard RS-232C signals and is similar to the Apple* Super Serial Card. Complete with instructions. Key: (a,b)

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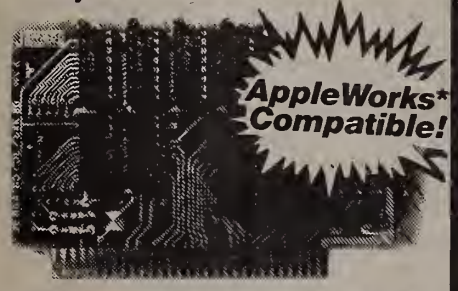

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CAMP	PRICE, SESSION	AGE GROUP	CURRICULUM	COMMENTS
Arrowhead Lutheran Camp P.O. Drawer 11 Crest Park, CA 92326 (714) 336-2076	$270 per week, 1-wk sessions from July 21 to Aug. 9, by age. Resident.	Grades 5-8, 7-9, 9 and beyond	BASIC, LOGO, word processing, literacy, programming	Using Apple Computers 3 hours per day, with additional "access time." Open to all denominations. Camp near Lake Arrowhead.
Cali-Camp Computer Camp 117 Old Topanga Cyn. Rd. Topanga, CA 90290 (213) 455-1305	5 2-wk sessions, June 24 - Aug. 17. Resident. $395 per session.	7-14	LOGO, BASIC, word processing, games	Half-day on Apple IIe computers, the rest on outdoor activities.
Catalina Sea Camp P.O. Box 796 Avalon, CA 90704 (213) 510-1622	2 3-wk sessions, June 19 - Aug. 9. Resident. $850 per session.	12-17	BASIC, Pascal, computers in oceanography, graphics, robotics	1½ hours to "whenever" on Apple IIe's. Scuba classes included with extra fee. Camp is on Toyon Bay, Catalina Island.
Compu-Camp 153 Homestead Blvd. Mill Valley, CA 94941 (415) 381-0426	1- and 2-wk sessions, $470 per week. Resident. 15% group discount. June 23 - Aug. 9.	9-17	LOGO, BASIC, Pascal, robotics, word processing, music, graphics, voice synthesizer, assembler	7 hours per day on IIe's, special interest groups on other topics. Camp at Sonoma State University.
Computer Tutor Camp 980 Magnolia Ave. Larkspur, CA 94939 (800) 227-2866 or (415) 461-7533 in CA	1- and 2-wk sessions, June 30 - Aug. 5. Day & resident. Price range varies; 1-wk day, $350, 2-wk res., $945	10-17	BASIC, Pascal, LOGO, assembler, music, graphics, robotics, game design	4-6 hours per day on Apple and IBM computers. Camp on campus of Stanford Univ.
Computers & Soccer University of San Francisco Office of Special Progs. Ignatian Heights, San Francisco, CA 94117 (415) 666-6809 or -6848	2 1-wk sessions, Aug. 12 - 23. Day. $150 per week.	10-18	BASIC, LISP, artificial intel., simulations, games, word processing, SAT prep.	Instructor teaches ½ soccer, ½ computers (on IIe's). Appearances by local soccer stars.
DataBase Camp 6454 Valley View Road Oakland, CA 94611 (415) 339-2844	1-wk, 10-day, 2- and 3-wk sessions, resident. July 14 - Aug. 3. $295, 1-wk; $475, 10-day; $625, 2-wk, $885, 3-wk	7-15	BASIC, LOGO, Pascal, assembler, sound & graphics, word processing, robotics	Dramatic arts included in non-computer activities; 3 hours minimum on Apples. Emphasizes individualized non-"canned" teaching.
ExperCamp (formerly The Original Computer Camp) 559 San Ysidro Road Santa Barbara, CA 93108 (800) 235-6965, (805) 969-7871 in CA	2-wk sessions between June 23 - Aug. 30. Resident. $895 per session.	7-15	BASIC, LOGO, FORTH, Pascal, 6502 assembler, artificial intel., game writing, graphics, robotics	3-6 hours per day on Apple computers. Discounts for multiple children from same family.
Foothill Horizons 801 County Center Three Court Modesto, CA 95355 (209) 571-6596	3 5-day sessions, combinable, from July 8 - 26. Resident. Cost not set, was $200 last year, may be lower for county residents.	Grades 3-8	BASIC, LOGO, word processing	Run by County Department of Education. Uses Apple, TRS-80, and IBM computers. Camp is in Sonora.
Meadow Oaks Camp 23456 Mulholland Hwy. Calabasas, CA 91302 (818) 346-9153	5 sessions, 1 - 4 wks. Approx. $200 per wk or $40 per day. Includes transport.	6-7 8-15	BASIC, LOGO, Pascal, graphics, music, applications emphasis	Along with other camps, offers a "computer analysis sports camp." IIe's and Ataris. 4½ hrs on computers.
Odyssey Academic Camp 5007 Concord Blvd. Concord, CA 94521 (415) 687-6851	1-wk sessions, can be combined up to 10 wks. June 23 - Aug. 31. $385 per session. Resident.	6-18	BASIC, LOGO, assembly, DBMs, applications	A fully accredited school that can also teach English, math, etc. 3½ hrs, 6 days per wk on Apples.
Pegasus Computer Camp University Extension University of California, Davis Davis, CA 95616 (916) 752-6401	4 1-wk sessions; date and cost not established yet; was $275 per week last yr. Probably day and resident.	8-12, junior/ senior high	Programming, BASIC, LOGO, Pascal, Unix	Working on IIe's, DEC Rainbows, campus mainframes. 6 hours a day on computer.
Silicon Valley Computer Camp CompuSkil Enterprises 186 Brittan Ave. San Carlos, CA 94070 (415) 593-4636	1-, 2-, 3-wk sessions, June 23 - July 13. Resident. $475 per week.	8-17	LOGO, BASIC, Pascal, assembler, robotics, music, graphics, or indiv. study	Half-day minimum on computers. Speakers from Silicon Valley. Works closely with minority enrichment group. On University of Santa Clara campus.
YMCA Point Bonita Outdoor and Conf. Ctr. Bldg. 981, Fort Barry GGNRA Sausalito, CA 94965 (415) 331-9622	3 1-wk resident sessions, from June 23 - July 13. $220 per session. Sessions 6 days	9-14	BASIC, LOGO, robotics, games, applications, word processing.	1½ hours per day on Apple II's, Commodores, IBM PC's, with access time as desired later. Emphasizes camping activities as balance for computer classes.

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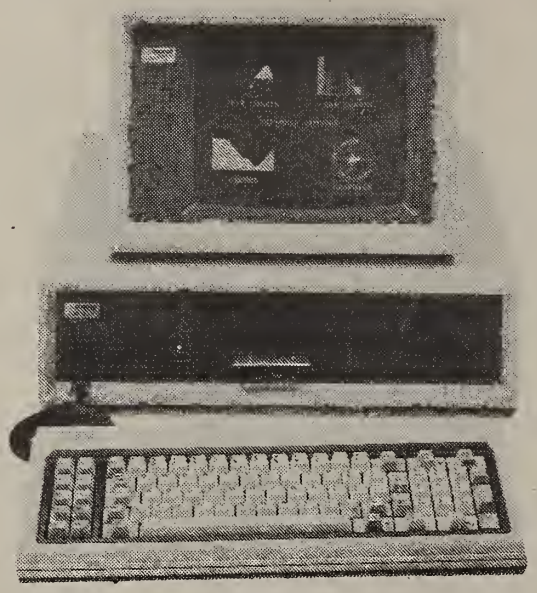

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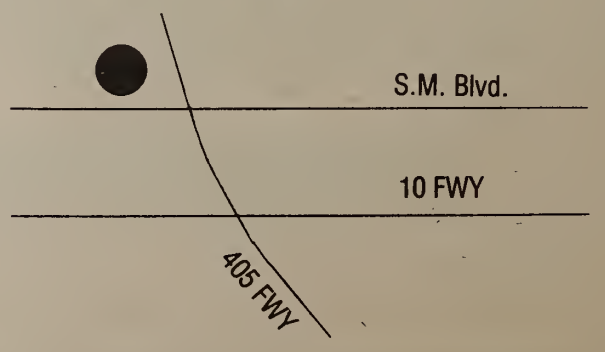

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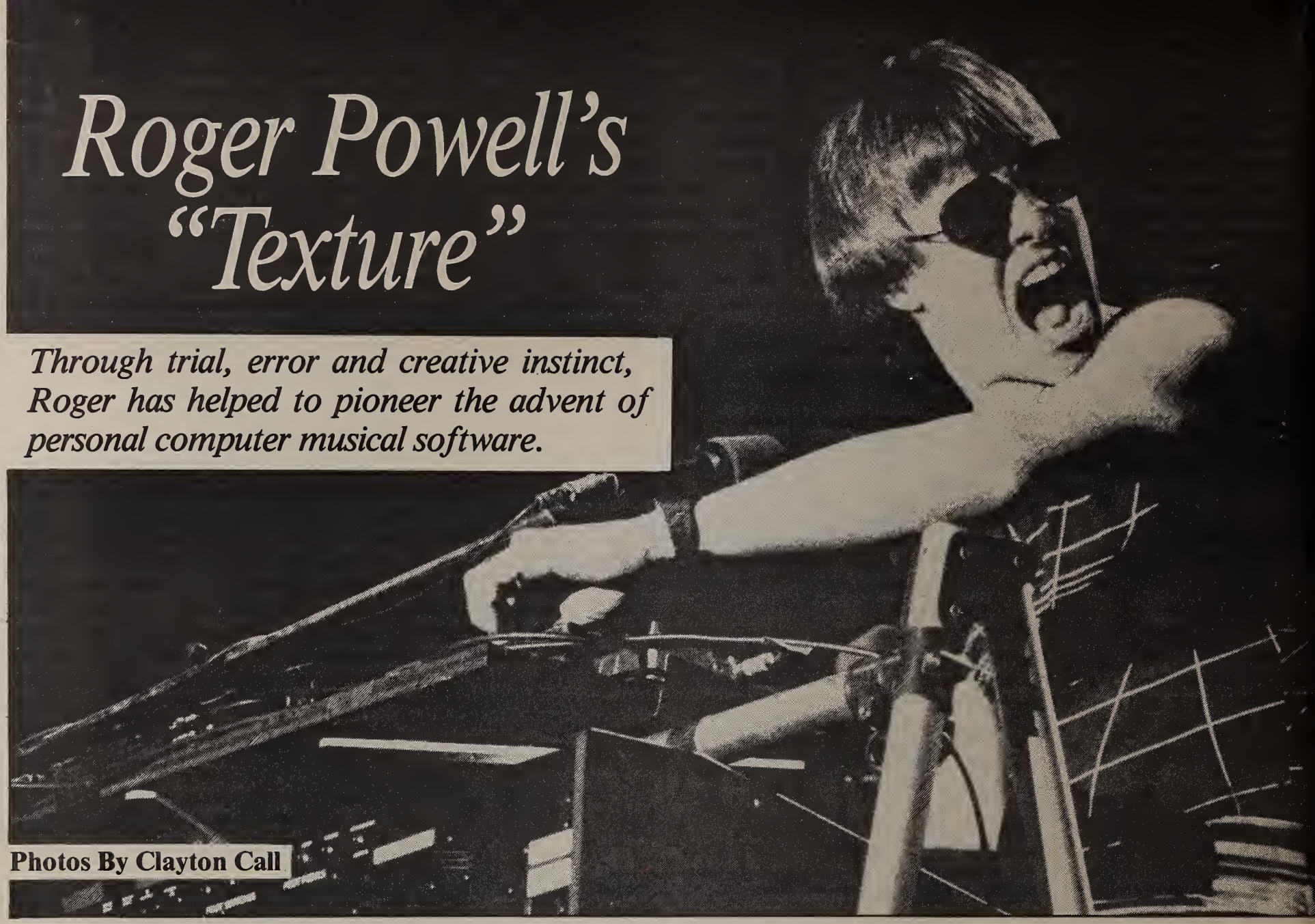
Roger Powell's "Texture"

Through trial, error and creative instinct, Roger has helped to pioneer the advent of personal computer musical software.



Photos By Clayton Call

A Professional Music Software Package For Your PC

By Benjamin Krepack

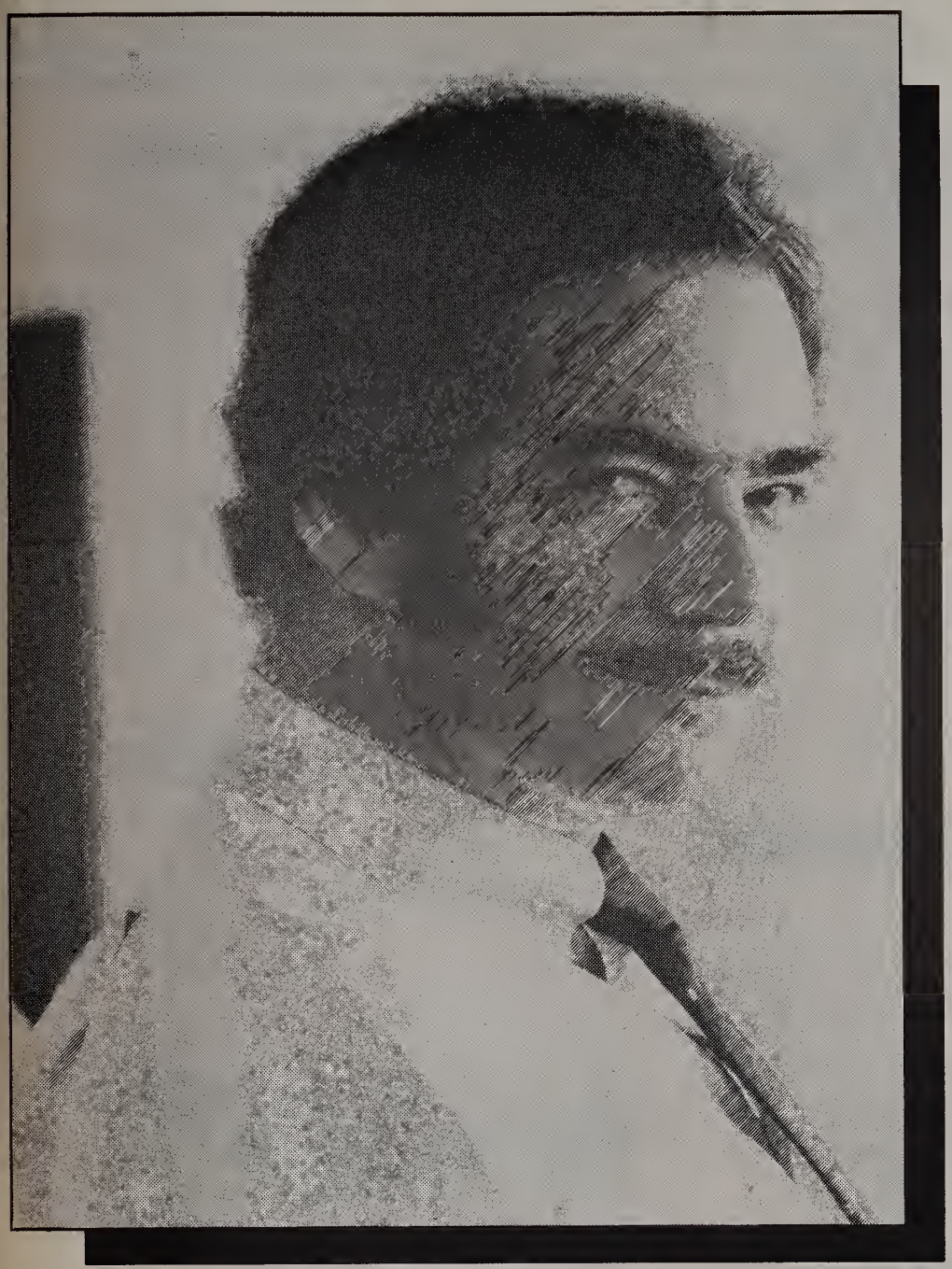
For the past eleven years, Roger Powell has been the well-respected keyboard player for the rock group Utopia, an East Coast-based band featuring Todd Rundgren. Besides touring and recording with Rundgren and Utopia, Roger has taken periodic sabbaticals from the band to work on solo albums or to tour with rock legend David Bowie.

But tickling the ivory keys isn't all that Roger has been doing during these years. Through trial, error and creative instinct, Roger has helped to pioneer the advent of personal computer musical software. Today, besides his continued involvement in Utopia, Roger holds the position of Director of Product Development for an East Coast software house called Cherry Lane Technologies. Their flagship product is a program written by Roger called *Texture* that offers easy, flexible editing and manipulation of musical data.

Essentially, *Texture* is the superior alternative to a multi-track tape recorder because it allows a tunesmith to compose music, and make changes in that music, prior to having committed the composition to tape. "I tried to give some personality to this program," says Roger, "because besides being a programmer, I'm also a user. A very impatient user. I wanted the program to be somewhat humanized, and I wanted it to address the problems that musicians have to face when they're composing. Having all the experience that I have had with recording and composing, I designed a program which represents a process of working that is very streamlined. In other words, you can move around in this program extremely fast, and all the operations that are performed are more or less instant."

A few years back, prior to the arrival of the Apple and the IBM PC, the mixing of computers and musical instruments was both difficult and expensive. Now, as micros find their way into more and more households, and as MIDI, the industry standard interface between computers and synthesizers, comes into more common use, it has become possible to utilize the facilities of a computer to assist in musical composition.

"Basically," says Roger, "*Texture* is a production tool for musicians. Let's say that you compose film soundtracks and you want to do your composition at home, before going in to record at an expensive studio. This program will allow you to compose the music in your own home with just a handful of keyboards and a personal computer. After getting all your pieces together and editing them on the computer, you would take it to the studio, punch a couple buttons, and it all plays back as you've composed it."



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Texture is designed not to place any additional financial burden on the user for added hardware or memory. The program only requires a MIDI interface box and a computer. The software currently runs on the IBM PC and will soon be available for the Apple II. There are tentative plans to release a version for the Macintosh, although no release date has been set. Roger also hints that this program will be made available for use on personal computers not yet available that will emulate many of the Mac concepts, but will add color and perhaps include the MIDI interface built directly into the hardware.

"Using *Texture*, you can record on what appears to be eight tracks, just as if it were a multi-track tape player," explains Roger. "But the program is not actually recording the sounds that you play. Rather, it's recording a list of keys that were passed and the times when those keys were depressed. This is called Event Data. Once you have the Event Data stored in the computer's own memory, you then have the ability to manipulate the music in any way."

Roger's *Texture* program allows the musician to arrange the musical input in a variety of ways using simple, easy-to-use menu style commands and direct key functions. "It's very difficult to change a song once it's on tape. It is, however, very easy on the computer. With a couple key-strokes, for example, you can completely rearrange a song you've written."

The program allows access to the music at other levels too. A composer can change each individual note in the composition, change the key that the music is played in, slow down or speed up the tempo without affecting the pitch; *Texture* will even allow chosen segments of the composition to be played on different instruments than initially assigned.

Roger's involvement in the mixture of computers and music began in the late sixties when he went to work for the ARP synthesizer company. Realizing that some kind of automation was necessary to efficiently handle the controls of the sophisticated instrumentation coming out, he set out to develop a program that would do just that. Roger now takes pride in the fact that he was one of the "original hackers."

"When the first micros became available on a hobbyist basis, I went out and got myself a kit," he recalls. "All it had was a box full of printed circuit cards and a lot of chips. But by building it from scratch, I learned all about programming and I began to develop my own custom interfaces."

According to Roger, everything changed upon the arrival of the first Apple computer. "For me," he says, "it was like going from a horse and buggy into a race car."

As a classically trained musician, Roger continued to hone his programming skills and, in doing so, invented a couple of musical instruments along the way. He invented a hand-held keyboard called the Probe and, a few years ago, came out with his own digital synthesizer. Roger indicates that he has spent more time developing *Texture* than he's spent on any single piece of music.

"I've found it to be a completely natural process going from musical composition to programming," he says. "The structuring of ideas is all very similar. Obviously, when you're creating a program from the bit-level up, and you're trying to design a sophisticated, sensitive interactive piece of work, it takes a lot more meticulous attention and requires constant dedication. That's where the difference is. It may be even more difficult than putting together a whole solo album."

Now, with the first release of *Texture* available, Roger has hit the road with Utopia to play a series of concerts across the country to promote their new album, *POV* (see accompanying story). But despite his busy schedule, Roger remains dedicated to his involvement with computers. He frequently writes articles for various musician's publications and often consults others on both musical and non-musical computer applications.

"We're still very early in the musical software game," he says. "The hardware standard that's made it possible to develop useful software is only a couple years old, and people are just beginning to realize its availability. I see the direction of musical applications going pretty much the way that business software has gone. When computers first came out, you had stand-alone word processors, stand-alone data base managers, spreadsheets and graphics. Now you have integrated packages that do it all. The same thing is starting to happen with music software where we're attempting to centralize the editing and the storage of all sound data."

Texture was designed in a modular fashion, making it possible to integrate some added capabilities. A subsequent release of the program, slated for availability in about nine months, will include commands that generate lists of notes within specified harmonic boundaries to aid in the actual creation of a composition. "A computer does not substitute for creativity," warns Roger. "There's no guarantee that when you use this program you'll immediately write a hit record. It's merely a tool to assist and accelerate the creative process." (*Texture* available from Cherry Lane Technologies, 110 Midland Ave., Port Chester, N.Y. 10573. (914) 937-8601). □

TODD RUNDGREN
Computers In Utopia

Many people know Todd Rundgren as the legendary guitarist who formed a rock group called the Nazz in 1967 and went on to compose a string of hits throughout the seventies. Since 1974, Todd has had two identities: his solo career and his membership in the group Utopia. His long list of production credits includes hit albums by such disparate artists as Hall and Oates, Psychedelic Furs, The Tubes, Alice Cooper, Patti Smith, Cheap Trick, Grand Funk Railroad and Meatloaf's multi-platinum debut LP. What most people don't know about him is that, like band-mate Roger Powell, Todd has also been involved with computers and software development.

But where Roger's hunger for more computer involvement has been driven by his love for composing, Todd's initial entry into high technology had more to do with the graphic capabilities of computers. "I've always been intrigued with graphics," says Todd. "I've written software for a company called Vertrix and I also wrote a program for Apple. Both of these were graphics-oriented packages."

Todd has recently merged his two worlds by incorporating graphics, generated by the Apple Macintosh, onto the cover and the outer and inner-sleeves of the new Utopia album, *POV*.

"When I started to lay out the graphics for the record, it was just that — a lay-out," says Todd. "I was just trying to come up with something simple that would allow us to experiment with a number of different formats. We decided we liked the look of it, so we transferred the whole thing onto the album cover."

Roger Powell says that he not only liked what he saw, but he felt it gave the band more freedom in choosing a typeface and graphic concept for the album. "We were just using the Mac for its marvelous art studio graphics capabilities," says Roger. "Suddenly, we thought, well, no one has done this yet, and someone is obviously going to do it soon, so why shouldn't we do it first?"

Todd also makes good use of the word processing capabilities of the Mac. "One of the reasons I got the Macintosh," he says, "was because of the easy word processing software. To me, *MacWrite* is an encouragement to document, which was the most difficult thing for me in terms of program development."

Computers fascinated Todd well before he got interested in writing graphic-generating programs. "When I was fifteen or sixteen," he says, "there were only two choices in my life as to what I was going to do. I was either going to be a musician or I was going to be involved in computers. A lot of people didn't know much about them, but it was always something that intrigued me. I used to go to the Bell Telephone billing office in Philadelphia and just hang out and watch people repair machines or see them shove punched cards into the card readers. I just loved the way it all looked."

Todd chose a career in music over computers for one simple reason: school. "I was not prepared to go to school anymore, and learning to work with computers would have required that. It wasn't until the late seventies, when personal computers became a practical reality, that I really started to get more involved. If you can learn to do it at home, it's fine with me."

Although Todd currently uses the Fairlight synthesizer as a song composition tool, and is looking forward to trying out *Texture*, he is skeptical about depending too heavily on the use of automated devices on the stage or in the studio. "It tends to take the identity out of the band," he says. "The last time we used tapes (pre-programmed music), it wasn't as much fun as just playing. The only real advantage to all this technology is to make music composition a more liberated and interactive process."

In fact, Todd won't even use his word processor for composing lyrics. "For me," he says, "writing words to a song means sitting down to scribble and cross out lines with a pencil and paper."

— Benjamin Krepack

Gail Harris:

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"People need an environment that involves rather than intimidates, that supports rather than scares them. We're extremely sensitive to the anxieties and resistance experienced by many people in business who are required to work with computers to survive."

Gail Harris (in background) offers some personal encouragement to a student at Training Works. Photo: Pat Johnson Studios.

By Tim Tyler

Sometimes those who inhabit the fast-paced technological world of the computer industry need a quiet and peaceful place to get away from it all. One such person is Gail Harris, Vice President of Training Works, who maintains that "the mountains" are the perfect refuge from civilization.

As it happens, Harris is sitting atop her own mountain at the moment, as Training Works is one of the largest and most successful microcomputer training centers in Northern California. Located in the heart of San Francisco's business district near Embarcadero Center, it provides instruction to more than 6,000 individuals and over 70 major companies.

Begun in 1983 as a microcomputer training division affiliated with ComputerLand in San Francisco, The Training Works finished last year by tripling its first year's figures, netting nearly $500,000. Recently incorporated as a separate company, Training Works projects net figures near 1.5 million.

Harris is unquestionably the driving force behind the creation and success of Training Works. The initial idea was hers, and she has been the company's Director of Education from the beginning. Her ability to combine good people skills with business and educational skills has been the main impetus behind the company's growth and prosperity.

"I have a bachelor's degree from UCLA in psychology," says Harris, who has always had a strong interest in the field of human behavior. She also received a master's degree in Counseling Psychology at Goddard College in Vermont, which, she says, really helped her in the

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"When people are faced with the frustrations of trying to keep up with their regular workload and learning to use a computer at the same time, it can put undue stress on employees. The end result is often a loss of productivity."

field of corporate training. She adds, "The combination of being a woman and having a background in psychology has enabled me to put a distinctive stamp on Training Works."

The idea of forming Training Works was partly due to Harris' own frustrations in learning to use software. "I was learning to use an Osborne, *WordStar*, *SuperCalc*, and *dBase* from the manuals. I became very frustrated," she explains, "and realized there must be a lot of other people out there like me." As a result, she adds, the purpose of Training Works is "to create a learning environment that is emotionally supportive. When people begin to confront the computer, a strong dose of old-fashioned patience and understanding goes a long way to help demystify computer jargon and translate it into practical information that is easy to learn and easy to use. That's really why our training works."

She continues, "We discovered that people need an environment that involves rather than intimidates, that supports rather than scares them. Training Works is extremely sensitive to the anxieties and resistance experienced by many people in business who are required to work with computers to survive."

An earlier experience at a Bay Area department store had given Harris a strong sense of just how intimidating computer training could be. "I had worked there for three years beginning in 1979 as the Director of Training and Development," she recalls. "In 1982, the store decided to install a mainframe which affected everybody and everything including the payroll, the time-keeping, and the merchandising. People were affected by the change because they were used to doing things in a particular way. I couldn't believe how this new system affected everyone. When people are faced with the frustrations of trying to keep up with their regular daily workload and learning to use a computer at the same time, it can put undue stress on employees. The end result is often a loss of productivity."

By the end of 1982, Harris was ready to leave her corporate job at the department store and move into an entrepreneur situation. "I had strong training in business management," she recalls, so I was confident that I could do it." She also knew that there was a developing market for computer training. A November 1982 article in *Business Week* stated, "Experts say 100 million Americans will need some form of computer instruction in the next decade."

With all this in mind, Harris presented her idea to the top management of ComputerLand. "A little over two years ago," she says, "I told Ray Schlitzer, Charles Orr, and Robert McMillian about my idea of establishing a microcomputer training division within their organization. I told them that end-user training could be profitable. They were ready to try it and accepted my proposal."

It would be a considerable understatement to say that Training Works has been profitable. The microcomputer training center enjoyed such success that Harris and ComputerLand recently agreed to let Training Works stand on its own. "We're our own independent company now, in the middle of transition," says Harris.

To reinforce the fact that Training Works is a distinct entity, Harris stresses that it is not and never has been a retail operation. "Our services only lend themselves to microcomputer training situations and solutions, not the selling of hardware and software," she says. "We're on a very aggressive growth path. I'm up to fifteen employees; we've had to hire a couple of salespeople recently, and we grew 240 per cent in volume last year. On a month-to-month basis, Training Works sales have increased consistently, often in increments exceeding 40 per cent."

According to Harris, one of the features that Training Works clients find most attractive is the company's flexibility in setting up training programs. "It's important for us to be flexible, to go where the market takes us," she observes. "Although most companies choose the one-day format, we can design half-day classes, or we can take the computers and instructors and set up training workshops at the corporate site. Most of our clients are major corporations, and the development of the courseware for one single software program can cost $15,000. That's because it reflects my belief in having good, solid instructional materials. With industry changing so rapidly, it makes little sense to most companies to set up their own 'in-house' training division when the training, the facilities, the instructors and the courseware already exist and are available — right here."

Training Works also offers public classes, workshops, seminars and labs. Each student receives hands-on training, working with an IBM PC or Compaq computer. The average class size is between ten and sixteen students, and sessions are held at various times Monday through Friday at the California Street headquarters. Students receive individualized attention thanks to the small class size. Beginning through advanced levels of instruction are available according to the needs of the student, on a wide variety of leading software packages, including *WordStar*, *MultiMate*, *Symphony*, *dBase II* and *III*, and the most widely requested, *Lotus 1-2-3*.

"What is also significant about Training Works," adds Harris, "is the after-class support we give our students. If people experience any problem adjusting to the use of computers outside the classroom, we have a hotline they can call for support." Training Works also offers an after-class lab setting for clients to polish their skills. "We train a client on, say, *dBase*," she says, "and then bring them back to the lab and train that person on a different level. By bringing a client back, we can determine if they have absorbed all of the previous material."

Also, Training Works adapts quickly to changes in the marketplace. Says Harris, "We're always watching the market and adding new courses each month in order to change with it. Our new Work Project Workshops — *dBase II* and *III*, *Lotus 1-2-3*, and *WordStar* — are a perfect example of adapting. So is our seminar this month on the Macintosh."

As to the future, Harris is confident. "I don't think computer training has hit its peak yet. I can't tell you what form technology will take on five years from now, but the need for microcomputer training will definitely be there. It will always be there." (The Training Works, 433 California St., Suite 310, San Francisco, CA. (415) 982-0211.) □

"When people begin to confront the computer, a strong dose of old-fashioned patience and understanding goes a long way to help demystify computer jargon and translate it into practical information."

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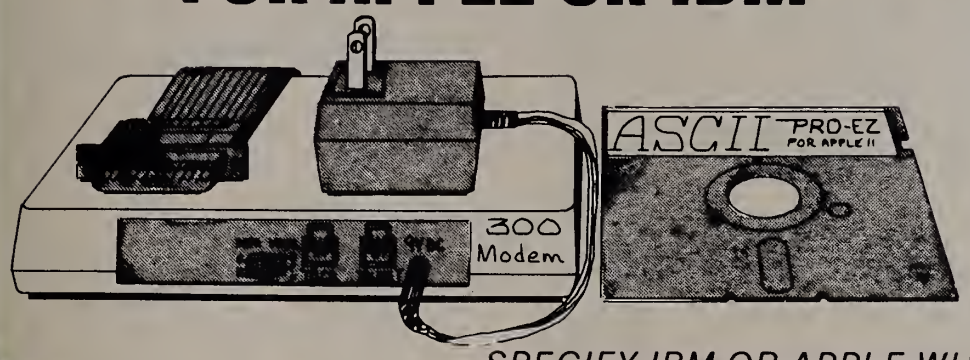

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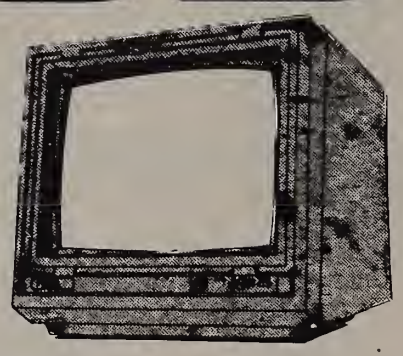

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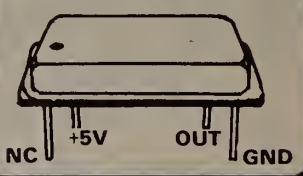

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74LS00

74LS00	.24	74LS189	8.95
74LS01	.25	74LS190	.89
74LS02	.25	74LS191	.89
74LS03	.25	74LS192	.79
74LS04	.24	74LS193	.79
74LS05	.25	74LS194	.69
74LS08	.28	74LS195	.69
74LS09	.29	74LS196	.79
74LS10	.25	74LS197	.79
74LS11	.35	74LS221	.89
74LS12	.35	74LS240	.95
74LS13	.45	74LS241	.99
74LS14	.59	74LS242	.99
74LS15	.35	74LS243	.99
74LS20	.25	74LS244	1.29
74LS21	.29	74LS245	1.49
74LS22	.25	74LS247	.75
74LS26	.29	74LS248	.99
74LS27	.29	74LS249	.99
74LS28	.35	74LS251	.59
74LS30	.25	74LS253	.59
74LS32	.29	74LS257	.59
74LS33	.55	74LS258	.59
74LS37	.35	74LS259	2.75
74LS38	.35	74LS260	.59
74LS40	.25	74LS261	2.25
74LS42	.49	74LS266	.55
74LS47	.75	74LS273	1.49
74LS48	.75	74LS275	3.35
74LS49	.75	74LS279	.49
74LS51	.25	74LS280	1.98
74LS54	.29	74LS283	.69
74LS55	.29	74LS290	.89
74LS63	1.25	74LS293	.89
74LS73	.39	74LS295	.99
74LS74	.35	74LS298	.89
74LS75	.39	74LS299	1.75
74LS76	.39	74LS322	5.95
74LS78	.49	74LS323	3.50
74LS83	.60	74LS324	1.75
74LS85	.69	74LS348	2.50
74LS86	.39	74LS352	1.29
74LS90	.55	74LS353	1.29
74LS91	.89	74LS363	1.35
74LS92	.55	74LS364	1.95
74LS93	.55	74LS365	.49
74LS95	.75	74LS366	.49
74LS96	.89	74LS367	.45
74LS107	.39	74LS368	.45
74LS109	.39	74LS373	1.39
74LS112	.39	74LS374	1.39
74LS113	.39	74LS375	.95
74LS114	.39	74LS377	1.39
74LS122	.45	74LS378	1.18
74LS123	.79	74LS379	1.35
74LS124	2.90	74LS385	3.90
74LS125	.49	74LS386	.45
74LS126	.49	74LS390	1.19
74LS132	.59	74LS393	1.19
74LS133	.59	74LS395	1.19
74LS136	.39	74LS396	1.89
74LS137	.99	74LS399	1.49
74LS138	.55	74LS424	3.95
74LS139	.55	74LS447	.95
74LS145	1.20	74LS490	1.95
74LS147	2.49	74LS540	1.95
74LS148	1.35	74LS541	1.95
74LS151	.55	74LS624	3.99
74LS153	.55	74LS640	2.20
74LS154	1.90	74LS645	2.20
74LS155	.69	74LS668	1.69
74LS156	.69	74LS669	1.89
74LS157	.65	74LS670	1.49
74LS158	.59	74LS674	14.95
74LS160	.69	74LS682	3.20
74LS161	.65	74LS683	3.20
74LS162	.69	74LS684	3.20
74LS163	.65	74LS685	3.20
74LS164	.69	74LS688	2.40
74LS165	.95	74LS689	3.20
74LS166	1.95	81LS95	1.49
74LS168	1.75	81LS96	1.49
74LS169	1.75	25LS2518	4.13
74LS170	1.49	25LS2521	2.80
74LS173	.69	25LS2538	3.74
74LS174	.55	25LS2569	2.80
74LS175	.55	26LS31	2.19
74LS181	2.15	26LS32	2.19

Z-80

2.5 MHz

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4.0 MHz

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6.0 MHz

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6500

1.0 MHz

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6522	5.49
6532	9.95
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2.0 MHz

6502A	5.95
6520A	5.95
6522A	9.95
6532A	11.95
6545A	12.95
6551A	11.95

3.0 MHz

6502B	8.95

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6800

68000-8	39.95
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6802	7.95
6803	19.95
6808	13.90
6809	8.95
6809E	8.95
6810	2.95
6820	4.35
6821	2.95
6828	14.95
6840	12.95
6843	34.95
6844	25.95
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6847	11.95
6850	3.25
6852	5.75
6860	7.95
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6880	2.25
6883	22.95
68047	24.95
68488	19.95

6800=1 MHz

68B00	10.95
68B02	11.95
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68B09	11.95
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68B50	5.95

68B00=2 MHz

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8216	1.75
8224	2.25
8226	1.80
8228	3.49
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8250	10.95
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8251A	4.49
8253	6.95
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8271	79.95
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8275	29.95
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74S04	.35	74S140	.55	74S257	.95
74S05	.35	74S151	.95	74S258	.95
74S08	.35	74S153	.95	74S260	.79
74S09	.40	74S157	.95	74S273	2.45
74S10	.35	74S158	.95	74S274	19.95
74S11	.35	74S161	1.95	74S275	19.95
74S15	.35	74S162	1.95	74S280	1.95
74S20	.35	74S163	1.95	74S283	3.29
74S22	.35	74S168	3.95	74S287	1.90
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74S32	.40	74S174	.95	74S289	6.98
74S37	.88	74S175	.95	74S299	7.35
74S38	.85	74S180	11.95	74S301	6.95
74S40	.35	74S181	3.95	74S373	2.45
74S51	.35	74S182	2.95	74S374	2.45
74S64	.40	74S185	16.95	74S381	7.95
74S65	.40	74S188	1.95	74S387	1.95
74S74	.50	74S189	6.95	74S399	2.95
74S85	1.99	74S194	1.49	74S412	2.98
74S86	.50	74S195	1.49	74S470	6.95
74S112	.50	74S196	1.49	74S471	4.95
74S113	.50	74S197	1.49	74S472	4.95
74S114	.55	74S201	6.95	74S474	4.95
74S124	2.75	74S225	7.95	74S570	2.95
74S132	1.24	74S226	3.99	74S571	2.95
74S133	.45	74S240	2.20	74S573	9.95
74S134	.50	74S241	2.20	87S181	16.25
				87S185	16.95

7400

7400	.19	7483	.50	74172	5.95
7401	.19	7485	.59	74173	.75
7402	.19	7486	.35	74174	.89
7403	.19	7489	2.15	74175	.89
7404	.19	7490	.35	74176	.89
7405	.25	7491	.40	74177	.75
7406	.29	7492	.50	74178	1.15
7407	.29	7493	.35	74179	1.75
7408	.24	7494	.65	74180	.75
7409	.19	7495	.55	74181	2.25
7410	.19	7496	.70	74182	.75
7411	.25	7497	2.75	74184	2.00
7412	.30	74100	1.75	74185	2.00
7413	.35	74105	1.14	74189	2.99
7414	.49	74107	.30	74190	1.15
7416	.25	74109	.45	74191	1.15
7417	.25	74110	.45	74192	.79
7420	.19	74111	.55	74193	.79
7421	.35	74116	1.55	74194	.85
7422	.35	74120	1.20	74195	.85
7423	.29	74121	.29	74196	.79
7425	.29	74122	.45	74197	.75
7426	.29	74123	.45	74198	1.35
7427	.29	74125	.45	74199	1.35
7428	.45	74126	.45	74221	1.35
7430	.19	74128	.55	74246	1.35
7432	.29	74132	.45	74247	1.25
7433	.45	74136	.50	74248	1.85
7437	.29	74141	.65	74249	1.95
7438	.29	74142	2.95	74251	.75
7439	.79	74143	4.95	74259	2.25
7440	.19	74144	2.95	74265	1.35
7442	.49	74145	.60	74273	1.95
7443	.65	74147	1.75	74276	1.25
7444	.69	74148	1.20	74278	3.11
7445	.69	74150	1.35	74279	.75
7446	.69	74151	.55	74283	2.00
7447	.69	74152	.65	74284	3.75
7448	.69	74153	.55	74285	3.75
7450	.19	74154	1.25	74290	.95
7451	.23	74155	.75	74293	.75
7453	.23	74156	.65	74298	.85
7454	.23	74157	.55	74351	2.25
7460	.23	74159	1.65	74365	.65
7470	.35	74160	.85	74366	.65
7472	.29	74161	.69	74367	.65
7473	.34	74162	.85	74368	.65
7474	.33	74163	.69	74376	2.20
7475	.45	74164	.85	74390	1.75
7476	.35	74165	.85	74393	1.35
7480	.59	74166	1.00	74425	3.15
7481	1.10	74167	2.96	74426	.85
7482	.95	74170	1.65	74490	2.55

CMOS

4000	.29	4531	.95
4001	.25	4532	1.95
4002	.25	4538	1.95
4006	.89	4539	1.95
4007	.29	4541	2.64
4008	.95	4543	1.19
4009	.39	4553	5.79
4010	.45	4555	.95
4011	.25	4556	.95
4012	.25	4558	2.45
4013	.38	4560	4.25
4014	.79	4569	3.49
4015	.39	4581	1.95
4016	.39	4582	1.95
4017	.69	4584	.75
4018	.79	4585	.75
4019	.39	45151	12.95
4020	.75	4702	12.95
4021	.79	4724	1.50
4022	.79	74C00	.35
4023	.29	74C02	.35
4024	.65	74C04	.35
4025	.29	74C08	.35
4026	1.65	74C10	.35
4027	.45	74C14	.59
4028	.69	74C20	.35
4029	.79	74C30	.35
4030	.39	74C32	.39
4034	1.95	74C42	1.29
4035	.85	74C48	1.99
4040	.75	74C73	.65
4041	.75	74C74	.65
4042	.69	74C76	.80
4043	.85	74C83	1.95
4044	.79	74C85	1.95
4046	.85	74C86	.39
4047	.95	74C89	4.50
4048	.69	74C90	1.19
4049	.35	74C93	1.75
4050	.35	74C95	.99
4051	.79	74C150	5.75
4052	1.99	74C151	2.25
4053	.79	74C154	3.25
4060	.89	74C157	1.75
4066	.39	74C160	1.19
4068	.39	74C161	1.19
4069	.29	74C162	1.19
4070	.35	74C163	1.19
4071	.29	74C164	1.39
4072	.29	74C165	2.00
4073	.29	74C173	.79
4075	.29	74C174	1.19
4076	.79	74C175	1.19
4077	.59	74C192	1.49
4078	.29	74C193	1.49
4081	.29	74C195	1.39
4082	.29	74C200	5.75
4085	.95	74C221	1.75
4086	.95	74C244	2.25
4093	.49	74C373	2.45
4094	2.99	74C374	2.45
4098	2.49	74C901	.39
4099	1.95	74C902	.85
14409	12.95	74C903	.85
14410	12.95	74C905	10.95
14411	11.95	74C906	.95
14412	12.95	74C907	1.00
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4502	.95	74C911	8.95
4503	.65	74C912	8.95
4507	1.25	74C914	1.95
4508	1.95	74C915	1.19
4510	.85	74C918	2.75
4511	.85	74C920	17.95
4512	.85	74C921	15.95
4514	1.25	74C922	4.49
4515	1.79	74C923	4.95
4516	1.55	74C925	5.95
4518	.89	74C926	7.95
4519	.39	74C927	7.95
4520	.79	74C928	7.95
4521	4.99	74C929	19.95
4522	1.25	74C930	4.95
4526	1.25	80C95	.85
4527	1.95	80C96	.95
4528	1.19	80C97	.95
4529	2.95	80C98	1.20

HIGH SPEED CMOS

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74HC00

74HC: Operate at CMOS logic levels and are ideal for new, all-CMOS designs.

74HC00	.59	74HC175	.99
74HC02	.59	74HC193	1.25
74HC04	.59	74HC194	1.04
74HC08	.59	74HC195	1.09
74HC10	.59	74HC238	1.35
74HC11	.59	74HC240	1.89
74HC14	.79	74HC241	1.89
74HC20	.59	74HC242	1.89
74HC27	.59	74HC243	1.89
74HC30	.59	74HC244	1.89
74HC32	.69	74HC245	1.89
74HC51	.59	74HC251	.89
74HC74	.75	74HC257	.85
74HC75	.85	74HC259	1.39
74HC85	1.35	74HC273	1.89
74HC86	.69	74HC299	4.99
74HC93	1.19	74HC367	.99
74HC125	1.19	74HC373	2.29
74HC132	1.19	74HC374	2.29
74HC138	.99	74HC393	1.39
74HC139	.99	74HC4017	1.99
74HC151	.89	74HC4020	1.39
74HC153	.89	74HC4024	1.59
74HC154	2.49	74HC4040	1.39
74HC157	.89	74HC4049	.89
74HC161	1.15	74HC4050	.89
74HC164	1.25	74HC4060	1.29
74HC166	2.95	74HC4511	2.39
74HC174	.99	74HC4538	2.29

74HCT00

74HCT: Direct, drop-in replacements for LS TTL and can be intermixed with 74LS in the same circuit.

74HCT00	.69	74HCT175	1.09
74HCT02	.69	74HCT193	1.39
74HCT04	.69	74HCT194	1.19
74HCT08	.69	74HCT195	1.29
74HCT10	.69	74HCT238	1.49
74HCT11	.69	74HCT240	2.19
74HCT14	.89	74HCT241	2.19
74HCT20	.69	74HCT242	2.19
74HCT27	.69	74HCT243	2.19
74HCT30	.69	74HCT244	2.19
74HCT32	.79	74HCT245	2.19
74HCT51	.69	74HCT251	1.09
74HCT74	.85	74HCT257	.99
74HCT75	.95	74HCT259	1.59
74HCT85	1.49	74HCT273	2.09
74HCT86	.79	74HCT299	5.25
74HCT93	1.29	74HCT367	1.09
74HCT125	1.29	74HCT373	2.49
74HCT132	1.29	74HCT374	2.49
74HCT138	1.15	74HCT393	1.59
74HCT139	1.15	74HCT4017	2.19
74HCT151	1.05	74HCT4020	1.59
74HCT153	1.05	74HCT4024	1.79
74HCT154	2.99	74HCT4040	1.59
74HCT157	.99	74HCT4049	.99
74HCT161	1.29	74HCT4050	.99
74HCT164	1.39	74HCT4060	1.49
74HCT166	3.05	74HCT4511	2.69
74HCT174	1.09	74HCT4538	2.59

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EPROM ERASERS

	Timer	Capacity Chip	Intensity (uW/Cm²)	
PE-14		9	8,000	$83.00
PE-14T	x	9	8,000	$119.00
PE-24T	x	12	9,600	$175.00
PL-265T	x	30	9,600	$255.00
PR-125T	x	25	17,000	$349.00
PR-320T	x	42	17,000	$595.00

VOLTAGE REGULATORS

TO-220 CASE PACKAGE

7805T	.75	7905T	.85
7808T	.75	7908T	.85
7812T	.75	7912T	.85
7815T	.75	7915T	.85
7824T	.75	7924T	.85

TO-3 CASE PACKAGE

7805K	1.39	7905K	1.49
7812K	1.39	7912K	1.49
7815K	1.39	7915K	1.49
7824K	1.39	7924K	1.49

TO-92 CASE PACKAGE

78L05	.69	79L05	.79
78L12	.69	79L12	.79
78L15	.69	79L15	.79

OTHER VOLTAGE REGS

78M05C	5volt	½amp	TO-220	.35
LM323K	5volt	3amp	TO-3	4.95
LM338K	Adj.	5amp	TO-3	3.95
78H05K	5volt	5amp	TO-3	9.95
78H12K	12volt	5amp	TO-3	9.95
78P05K	5volt	10amp	TO-3	14.95
UA78S40	FAIRCHILD		DIP	1.95

LINEAR

LM301	.34	NE570	3.95
LM301H	.79	NE571	2.95
LM307	.45	NE590	2.50
LM308	.69	NE592	.98
LM308H	1.15	LM709	.59
LM309H	1.95	LM710	.75
LM309K	1.25	LM711	.79
LM310	1.75	LM723	.49
LM311	.64	LM723H	.55
LM311H	.89	LM733	.98
LM312H	1.75	LM741	.35
LM317K	3.95	LM741N-14	.35
LM317T	1.19	LM741H	.40
LM318	1.49	LM747	.69
LM318H	1.59	LM748	.59
LM319H	1.90	LM1014	1.19
LM319	1.25	LM1303	1.95
LM320	see7900	LM1310	1.49
LM322	1.65	MC1330	1.69
LM323K	4.95	MC1349	1.89
LM324	.59	MC1350	1.19
LM329	.65	MC1358	1.69
LM331	3.95	MC1372	6.95
LM334	1.19	LM1414	1.59
LM335	1.40	LM1458	.59
LM336	1.75	LM1488	.69
LM337T	1.95	LM1489	.69
LM337K	3.95	LM1496	.85
LM338K	3.95	LM1558H	3.10
LM339	.99	LM1800	2.37
LM340	see7800	LM1812	8.25
LM348	.99	LM1830	3.50
LM350K	4.95	LM1871	5.49
LM350T	4.60	LM1872	5.49
LM358	.69	LM1877	3.52
LM359	1.79	LM1889	1.95
LM376	3.75	LM1896	1.75
LM377	1.95	ULN2003	1.29
LM378	2.50	XR2206	3.75
LM379	4.50	LM2877	2.05
LM380	.89	LM2878	2.25
LM380N-8	1.10	LM2900	.85
LM381	1.60	LM2901	1.00
LM382	1.60	MPQ2907	1.95
LM383	1.95	LM2917	2.95
LM384	1.95	MC3487	2.95
LM386	.89	LM3900	.59
LM387	1.40	LM3905	1.25
LM389	1.35	LM3909	.98
LM390	1.95	LM3911	2.25
LM392	.69	LM3914	3.95
LM393	1.29	LM3915	3.95
LM394H	4.60	LM3916	3.95
LM399H	5.00	MC4024	3.95
NE531	2.95	MC4044	4.50
NE555	.34	RC4136	1.25
NE556	.65	RC4151	3.95
NE558	1.50	LM4250	1.75
NE564	2.95	LM4500	3.25
LM565	.99	RC4558	.69
LM566	1.49	LM13600	1.49
LM567	.89	LM13700	1.45

H=TO-5 CAN, K=TO-3, T=TO-220

RCA

CA3023	2.75	CA3083	1.55
CA3039	1.29	CA3086	.80
CA3046	1.25	CA3089	2.99
CA3059	2.90	CA3096	3.49
CA3060	2.90	CA3130	1.30
CA3065	1.75	CA3140	1.15
CA3080	1.10	CA3146	1.85
CA3081	1.65	CA3160	1.19
CA3082	1.65	CA3183	.99

TI

TL494	4.20	75365	1.95
TL496	1.65	75450	.59
TL497	3.25	75451	.39
75107	1.49	75452	.39
75108	1.49	75453	.39
75110	1.95	75454	.39
75150	1.95	75477	1.29
75154	1.95	75491	.79
75160	4.95	75492	.79
75188	1.25	75493	.89
75189	1.25	75494	.89

BI FET

TL066	.99	LF347	2.19
TL071	.79	LF351	.60
TL072	1.19	LF353	1.00
TL074	2.19	LF355	1.10
TL081	.79	LF356	1.10
TL082	1.19	LF357	1.40
TL083	1.19	LF411	1.29
TL084	2.19	LF412	1.99

TRANSISTORS

2N918	.50	2N3772	1.85
MPS918	.25	2N3903	.25
2N2102	.75	2N3904	.10
2N2218	.50	2N3906	.10
2N2218A	.50	2N4122	.25
2N2219	.50	2N4123	.25
2N2219A	.50	2N4249	.25
2N2222	.25	2N4304	.75
PN2222	.10	2N4401	.25
MPS2369	.25	2N4402	.25
2N2484	.25	2N4403	.25
2N2905	.50	2N4857	1.00
2N2907	.25	PN4916	.25
PN2907	.13	2N5086	.25
2N3055	.79	PN5129	.25
3055T	.69	PN5139	.25
2N3393	.30	2N5209	.25
2N3414	.25	2N6028	.35
2N3563	.40	2N6043	1.75
2N3565	.40	2N6045	1.75
PN3565	.25	MPS-A05	.25
MPS3638	.25	MPS-A06	.25
MPS3640	.25	MPS-A13	.40
PN3643	.25	MPS-A55	.25
PN3644	.25	MPU-131	.99
MPS3704	.15	TIP29	.65
MPS3706	.15	TIP31	.75
		TIP32	.79

IC SOCKETS

	1-99	100
8 PIN ST	.13	.11
14 PIN ST	.15	.12
16 PIN ST	.17	.13
18 PIN ST	.20	.18
20 PIN ST	.29	.27
22 PIN ST	.30	.27
24 PIN ST	.30	.27
28 PIN ST	.40	.32
40 PIN ST	.49	.39
64 PIN ST	4.25	CALL

ST=SOLDERTAIL

8 PIN WW	.59	.49
14 PIN WW	.69	.52
16 PIN WW	.69	.58
18 PIN WW	.99	.90
20 PIN WW	1.09	.98
22 PIN WW	1.39	1.28
24 PIN WW	1.49	1.35
28 PIN WW	1.69	1.49
40 PIN WW	1.99	1.80

WW=WIREWRAP

INTERFACE

8T26	1.59
8T28	1.98
8T95	.89
8T96	.89
8T97	.89
8T98	.89
DM8131	2.95
DP8304	2.29
DS8833	2.25
DS8835	1.99
DS8836	.99
DS8837	1.65
DS8838	1.30

INTERSIL

ICL7106	9.95
ICL7107	12.95
ICL7660	2.95
ICL8038	3.95
ICM7207A	5.59
ICM7208	15.95

DATA ACQ

ADC0800	15.55
ADC0804	3.49
ADC0809	4.49
ADC0816	14.95
ADC0817	9.95
ADC0831	8.95
DAC0800	4.49
DAC0806	1.95
DAC0808	2.95
DAC1020	8.25
DAC1021	7.95
DAC1022	5.95
MC1408L6	1.95
MC1408L8	2.95

EXAR

XR2206	3.75
XR2207	3.75
XR2208	3.75
XR2211	5.25
XR2240	3.25

9000

9304	.95
9316	1.00
9328	1.49
9334	2.50
9368	3.95
9401	9.95
9601	.75
9602	1.50
9637	2.95
96S02	1.95

SOUND CHIPS

76477	3.95
76488	5.95
76489	8.95
SSI-263	39.95
AY3-8910	12.95
AY3-8912	12.95
MC3340	1.49
SP1000	39.00

OPTO-ISOLATORS

4N26	1.00	MCA-7	4.25
4N27	1.10	MCA-255	1.75
4N28	.69	IL-1	1.25
4N33	1.75	ILA-30	1.25
4N35	1.25	ILQ-74	2.75
4N37	1.25	H11C5	1.25
MCT-2	1.00	TIL-111	1.00
MCT-6	1.50	TIL-113	1.75

VISA MasterCard

I have had nothing but good experiences with JDR and look foward to more of the same. It's not often a company is willing to help customers to the extent JDR has.

— Stephen L. Vajo

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DB25S RS232 FEMALE SOLDER CUP 2.25

DB25P RS232 MALE SOLDER CUP 1.90

BARGAIN HUNTERS CORNER

SPECIAL PURCHASE!

TAXAN RGB VISION III $299.95

SUPER HI-RES RGB MONITOR ORIGINALLY MADE FOR ACORN COMPUTER

- 12" SCREEN
- 18 MHz BANDWIDTH
- 640 x 262 PIXELS
- 25 LINES x 80 COL.
- .38mm DOT PITCH WITH BLACK MATRIX FOR A SHARP IMAGE AND HIGH CONTRAST.

NO C.O.D. ORDERS PLEASE!

ACCESSORIES

COLOR DISPLAY ADAPTOR FOR IBM PC/XT	$129.00
RGB CABLE FOR IBM	$16.95

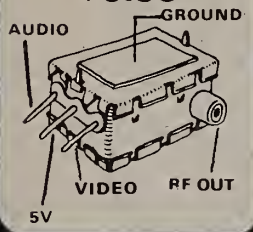
SPECIALS ENDS 6/30/85

RF MODULATOR (ASTEC UM1082)

QUANTITIES LIMITED

- PRESET TO CHANNEL 3
- USE TO BUILD TV-COMPUTER INTERFACE
- +5 VOLT OPERATION

$6.95



EMI FILTER

- MAJOR MANUFACTURER
- LOW COST
- FITS LC-HP BELOW

$4.95

LINE CORDS

LC-2	2 CONDUCTOR	6 ft	.39
LC-3	3 CONDUCTOR	6 ft	.99
LC-HP	3 CONDUCTOR WITH STANDARD FEMALE SOCKET	6 ft	1.49
LC-CIR	CIGARETTE LIGHTER PLUG WITH 6 FOOT CORD		2.95

MUFFIN FANS

4.68" SQUARE	14.95
3" SQUARE	14.95

CAPACITORS

TANTALUM

1.0µf	15V	.40	.47µf	35V	.50
6.8	15V	.70	1.0	35V	.45
10	15V	.80	2.2	35V	.65
22	15V	1.35	4.7	35V	.85
.22	35V	.40	10	35V	1.00

DISC

10pf	50V	.05	560	50V	.05
22	50V	.05	680	50V	.05
25	50V	.05	820	50V	.05
27	50V	.05	.001µf	50V	.05
33	50V	.05	.0015	50V	.05
47	50V	.05	.0022	50V	.05
56	50V	.05	.005	50V	.05
68	50V	.05	.01	50V	.07
82	50V	.05	.02	50V	.07
100	50V	.05	.05	50V	.07
220	50V	.05	.1	12V	.10

MONOLITHIC

.01µf	50V	.14	.1µf	50V	.18
.047µf	50V	.15	.47µf	50V	.25

ELECTROLYTIC

RADIAL			AXIAL		
1µf	25V	.14	1µf	50V	.14
2.2	35V	.15	4.7	16V	.14
4.7	50V	.15	10	16V	.14
10	50V	.15	10	50V	.16
47	35V	.18	22	16V	.14
100	16V	.18	47	50V	.20
220	35V	.20	100	15V	.20
470	25V	.30	100	35V	.25
2200	16V	.60	220	25V	.30
			330	16V	.40
COMPUTER GRADE			500	16V	.42
			1000	16V	.60
			2200	16V	.70
44,000µf 30V 3.95			6000	16V	.85

RESISTORS

¼ WATT 5% CARBON FILM
ALL STANDARD VALUES
FROM 1 OHM TO 10 MEG OHM

50 PIECES SAME VALUE	.025
100 PIECES SAME VALUE	.02
1000 PIECES SAME VALUE	.015

BYPASS CAPS

.01 µf DISC	100/$6.00
.01 µf MONOLITHIC	100/$12.00
.1 µf DISC	100/$8.00
1 µf MONOLITHIC	100/$15.00

DIODES

1N751	5.1 VOLT ZENER	.25
1N759	12.0 VOLT ZENER	.25
1N4148	(1N914)SWITCHING	25/1.00
1N4001	50PIV 1A	12/1.00
1N4004	400PIV RECTIFIER	10/1.00
1N5402	200PIV 3A	.25
KBP02	200PIV 1.5A BRIDGE	.45
KBP04	400PIV 1.5A BRIDGE	.55
MDA801	50PIV 12A BRIDGE	1.39
MDA980-1	50PIV 12A BRIDGE	1.95
MDA980-2	100PIV 12A BRIDGE	2.25
VM48	DIP-BRIDGE	.35

LED DISPLAYS

HP5082-7760	CC	.43"	1.29
MAN-72	CA	.3"	.99
MAN-74	CC	.3"	.99
FND-357(359)	CC	.375"	1.25
FND-500(503)	CC	.5"	1.49
FND-507(510)	CA	.5"	1.49
TIL-311 4x7 HEX W/LOGIC		.270"	9.95

HARD TO FIND "SNAPABLE" HEADERS

Can easily be snapped apart to make any size header, all with .1" centers

1x40	STRAIGHT LEAD	.99
1x40	RIGHT ANGLE	1.49
2x40	STRAIGHT LEAD	2.49
2x40	RIGHT ANGLE	2.99

SHORTING BLOCKS

SPACED AT .1" CENTERS
IDEAL FOR DISK DRIVES
OR ANY .1" HEADER

5/1.00

DIP SWITCHES

4 POSITION	.85
5 POSITION	.90
6 POSITION	.90
7 POSITION	.95
8 POSITION	.95
10 POSITION	1.29

EDGECARD CONNECTORS

S-100 ST	S-100	3.95
S-100 WW	S-100	4.95
72 PIN ST		6.95
72 PIN WW		7.95
62 PIN ST	IBM PC	4.95
50 PIN ST	APPLE	4.95
44 PIN ST		2.95
44 PIN WW		4.95

36 PIN CENTRONICS

IDCEN36	RIBBON CABLE MALE	8.95
IDCEN36 F	RIBBON CABLE FEMALE	8.95
CEN36	SOLDER CUP MALE	7.95

HEAT SINKS

TO-220	SCREW ON	.35
TO-220	CLIP ON	.35
TO-3	SCREW ON	.95
TO-220	INSULATOR	10/1.00
TO-3	INSULATOR	10/1.00

SWITCHES

SPDT	MINI-TOGGLE ON-ON	1.25
DPDT	MINI-TOGGLE ON-ON	1.50
DPDT	MINI-TOGGLE ON-OFF-ON	1.75
SPST	MINI-PUSHBUTTON N.O.	.39
SPST	MINI-PUSHBUTTON N.C.	.39
BCD OUT 10 POSITION 6 PIN DIP		1.95

DIFFUSED LEDS

		1-99	100-up
JUMBO RED	T1¾	.10	.09
JUMBO GREEN	T1¾	.18	.15
JUMBO YELLOW	T1¾	.18	.15
MOUNTING HDW	T1¾	.10	.09
MINI RED	T1	.10	.09
MINI GREEN	T1	.18	.15
MINI YELLOW	T1	.18	.15
RECT RED	2x5mm	.25	.22
RECT GREEN	2x5mm	.30	.27
RECT YELLOW	2x5mm	.30	.27

DIP CONNECTORS

DESCRIPTION	ORDER BY	CONTACTS								
		8	14	16	18	20	22	24	28	40
HIGH RELIABILITY TOOLED ST IC SOCKETS	AUGATxxST	.99	.99	.99	1.69	1.89	1.89	1.89	2.49	2.99
HIGH RELIABILITY TOOLED WW IC SOCKETS	AUGATxxWW	1.30	1.80	2.10	2.40	2.50	2.90	3.15	3.70	5.40
COMPONENT CARRIES (DIP HEADERS)	ICCxx	.49	.59	.69	.99	.99	.99	.99	1.09	1.49
RIBBON CABLE DIP PLUGS (IDC)	IDPxx	---	.95	.95	---	---	---	1.75	---	2.95

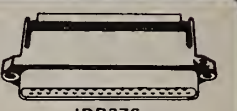
FOR ORDERING INSTRUCTIONS SEE IDC CONNECTORS BELOW

D-SUBMINIATURE

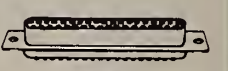
DESCRIPTION		ORDER BY	CONTACTS				
			9	15	25	37	50
SOLDER CUP	MALE	DBxxP	1.19	1.59	1.90	2.85	4.25
	FEMALE	DBxxS	1.50	1.85	2.25	3.90	5.25
RIGHT ANGLE PC SOLDER	MALE	DBxxPR	1.65	2.20	3.00	4.83	---
	FEMALE	DBxxSR	2.18	3.03	3.00	6.19	---
WIRE WRAP	MALE	DBxxPWW	1.69	2.56	3.89	5.60	---
	FEMALE	DBxxSWW	2.76	4.27	6.84	9.95	---
IDC RIBBON CABLE	MALE	IDBxxP	2.95	3.90	4.75	6.95	---
	FEMALE	IDBxxS	3.25	4.29	5.25	7.95	---
HOODS	BLACK	HOOD-B	---	---	.99	---	---
	GREY	HOODxx	.89	.99	.99	1.09	1.19

MOUNTING HARDWARE-$1.00

FOR ORDERING INSTRUCTIONS SEE IDC CONNECTORS BELOW



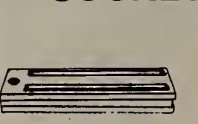
IDB37S



DB37S

DB25SR

TEXTOOL ZERO INSERTION FORCE SOCKETS AND RECEPTACLES



SCREWDRIVER CLAMP ECONO ZIF

LEVER CLAMP ZIF SOCKET

WW RECEPTACLES ZIF RECEPTACLE

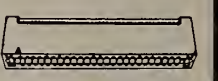
TYPE	CONTACTS				
	14	16	24	28	40
ECONO ZIF	---	4.95	6.75	7.75	9.95
ZIF SOCKET	4.95	4.95	5.95	6.95	9.95
ZIF RECEPTACLE	8.25	8.75	9.75	10.50	12.75

IDC CONNECTORS

DESCRIPTION	ORDER BY	CONTACTS					
		10	20	26	34	40	50
SOLDER HEADER	IDHxxS	.82	1.29	1.68	2.20	2.58	3.24
RIGHT ANGLE SOLDER HEADER	IDHxxSR	.85	1.35	1.76	2.31	2.72	3.39
WW HEADER	IDHxxW	1.86	2.98	3.84	4.50	5.28	6.63
RIGHT ANGLE WW HEADER	IDHxxWR	2.05	3.28	4.22	4.45	4.80	7.30
RIBBON HEADER SOCKET	IDSxx	.79	.99	1.39	1.59	1.99	2.25
RIBBON HEADER	IDMxx	---	5.50	6.25	7.00	7.50	8.50
RIBBON EDGE CARD	IDExx	1.75	2.25	2.65	2.75	3.80	3.95

ORDERING INSTUCTIONS: INSERT THE NUMBER OF CONTACTS IN THE POSITION MARKED "xx" OF THE "ORDER BY" PART NUMBER LISTED. EXAMPLE: A 10 PIN RIGHT ANGLE HOLDER STYLE WOULD BE IDH10SR

IDH20W



IDE50

RIBBON CABLE

CONTACTS	SINGLE COLOR		COLOR CODED	
	1'	10'	1'	10'
10	.18	1.60	.83	7.30
16	.28	2.50	1.00	8.80
20	.36	3.20	1.25	11.00
25	.45	4.00	1.32	11.60
25	.46	4.10	1.32	11.60
34	.61	5.40	1.65	14.50
40	.72	6.40	1.92	16.80
50	.89	7.50	2.50	22.00

JDR Microdevices

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TERMS: Minimum order $10.00. For shipping and handling include $2.50 for UPS Ground and $3.50 for UPS Air. Orders over 1 lb. and foreign orders may require additional shipping charges - please contact our sales department for the amount. CA. residents must include 6% sales tax, Bay Area and LA residents include 6½%. All merchandise is warranted for 90 days unless otherwise stated. Prices are subject to change without notice. We are not responsible for typographical errors. We reserve the right to limit quantities and to substitute manufacturer. All merchandise subject to prior sale.

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IBM PC PROTOTYPE CARD WITH DECODING CIRCUITRY $29.95

WIRE WRAP PROTOTYPE CARDS

FR-4 EPOXY GLASS LAMINATE WITH GOLD-PLATED EDGE-CARD FINGERS

IBM-PR2

IBM

BOTH CARDS HAVE SILK SCREENED LEGENDS AND INCLUDES MOUNTING BRACKET

IBM-PR1	WITH +5V AND GROUND PLANE	$27.95
IBM-PR2	AS ABOVE WITH DECODING LAYOUT	$29.95

S-100

P100-1	BARE - NO FOIL PADS	$15.15
P100-2	HORIZONTAL BUS	$21.80
P100-3	VERTICAL BUS	$21.80
P100-4	SINGLE FOIL PADS PER HOLE	$22.75

APPLE

P500-1	BARE - NO FOIL PADS	$15.15
P500-3	HORIZONTAL BUS	$22.75
P500-4	SINGLE FOIL PADS PER HOLE	$21.80
7060-45	FOR APPLE IIe AUX SLOT	$30.00

GENERAL PURPOSE

22/44 PIN EDGE-CARD (.156" SPACING)

P441-1	BARE - NO FOIL PADS 4.5" x 6.0"	$9.45
P441-3	VERTICAL BUS 4.5" x 6.0"	$13.95
P441-4	SINGLE FOIL PADS 4.5" x 6.0"	$14.20
P442-1	BARE - NO FOIL PADS 4.5" x 9.0"	$10.40
P442-3	VERTICAL BUS 4.5" x 9.0"	$14.20
P442-4	SINGLE FOIL PADS 4.5" x 9.0"	$13.50

36/72 PIN EDGE-CARD (.1" SPACING)

P721-1	BARE - NO FOIL PADS 4.5" x 6.0"	$9.45
P721-3	VERTICAL BUS 4.5" x 6.0"	$13.25
P721-4	SINGLE FOIL PADS 4.5" x 6.0"	$14.20
P722-1	BARE - NO FOIL PADS 4.5" x 9.0"	$10.40
P722-3	VERTICAL BUS 4.5" x 9.0"	$14.20
P722-4	SINGLE FOIL PADS 4.5" x 9.0"	$15.15

BARE GLASS BOARDS

NO EDGE-CARD FINGERS OR FOIL

P25x45	2.5" x 4.5"	$2.40
P45x65	4.5" x 6.5"	$4.70
P45x85	4.5" x 8.5"	$6.20
P45x170	4.5" x 17.0"	$11.35
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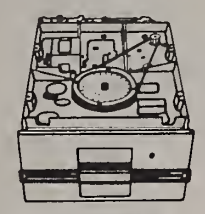

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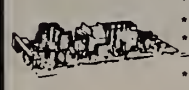

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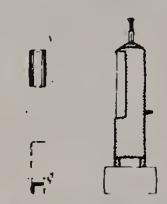
MOS-40	for 40 pin IC's	$12.43

MOS series insertion tools have metal constuction and include grounding lug for CMOS applications.



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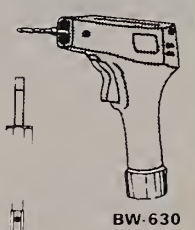

BW-630

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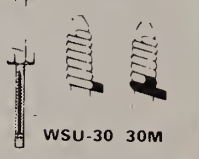

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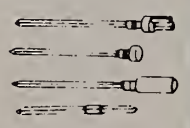

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- SLIPS OVER WIRE WRAP PINS
- IDENTIFIES PIN NUMBERS ON WRAP SIDE OF BOARD
- CAN WRITE ON PLASTIC; SUCH AS IC #

PINS	PART#	PCK. OF	PRICE
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18	IDWRAP 18	5	1.95
20	IDWRAP 20	5	1.95
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28	IDWRAP 28	5	1.95
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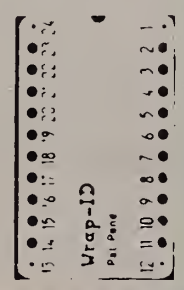
PLEASE ORDER BY NUMBER OF PACKAGES (PCK. OF)



WIRE WRAP WIRE

PRECUT AND STRIPPED

Note: 1 inch of insulation is stripped on each end. A 3.5" wire has only 1.5" of insulation.

LENGTH (INCHES)	QUANTITY 100	500	1000
2.5	1.60	4.70	8.20
3	1.60	4.70	8.20
3.5	1.65	5.00	8.90
4	1.75	5.40	9.60
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5	1.85	6.10	11.00
5.5	1.90	6.50	11.75
6	2.00	6.85	12.50
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7.5	2.50	8.55	15.85
8	2.60	8.95	16.60
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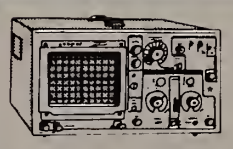

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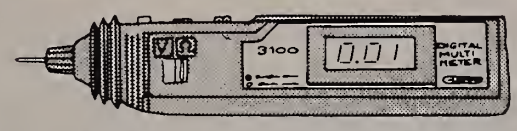

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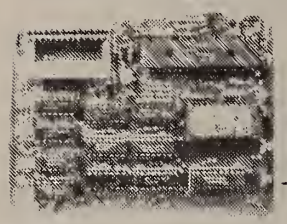

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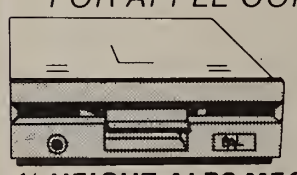

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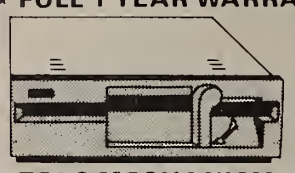

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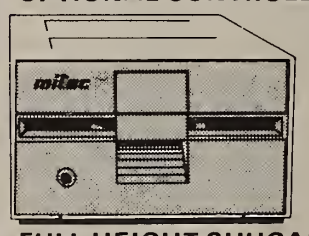

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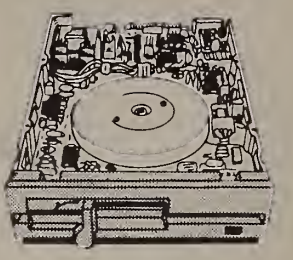

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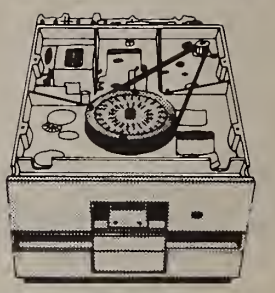

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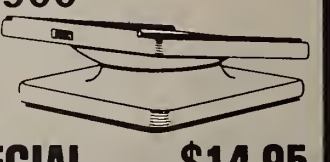

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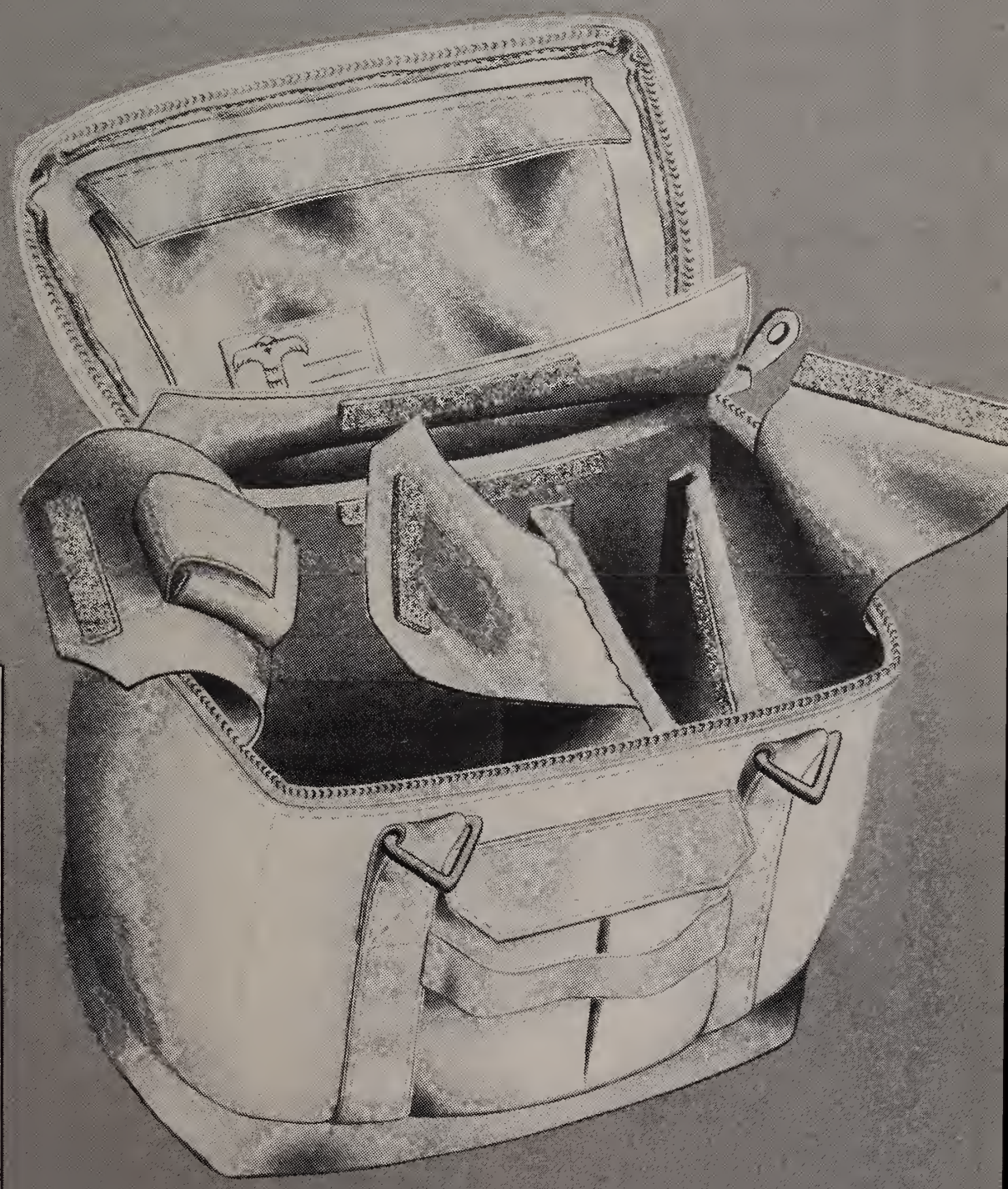
MAC TAKES A HIKE

In Search Of The Ultimate Travel Accessory

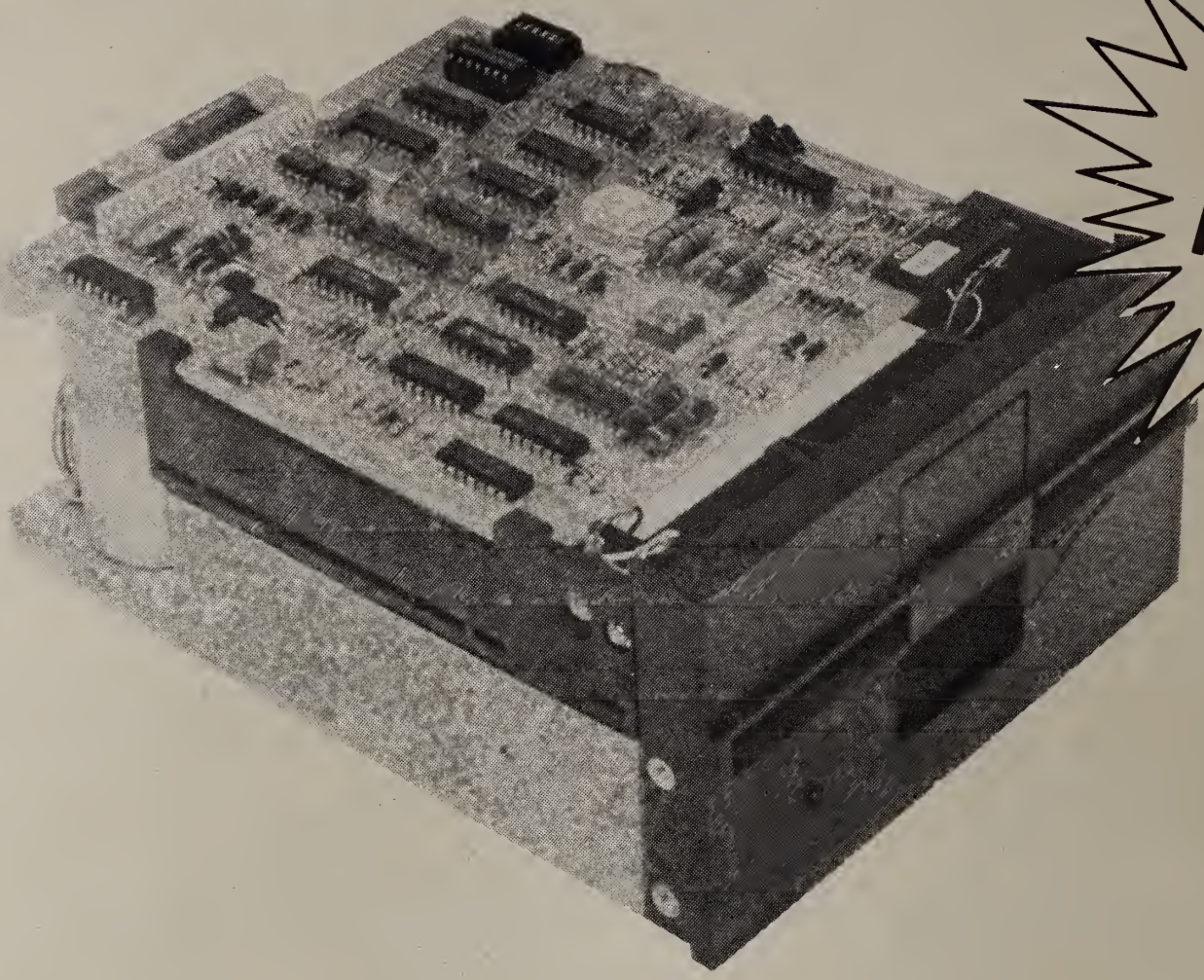
By Ken Goehner



The Macintosh is a nice little computer. It's cute and fun and friendly. You may very well want to take it with you everywhere you go. If you are a journalist, computer specialist, or compulsive Mac hacker, this can be a professional or personal necessity. Becoming a Mac addict is a subtly quick and possibly terminal process.

There is no known cure. Until the advent of the Lap Mac, thousands and thousands of habitual users will be roaming the streets, buses and airports carrying a thirty pound habit, shifting it from hand to hand, walking leaned over to the left or right, sideswiping anyone who unwarily comes too close.

The only thing that can be done for the mobile user to help ease the pain is to make the burden more comfortable, more protective of the beloved Mac, and if at all possible, more stylish. We have, therefore, collected three of the best carrying cases for the Macintosh and



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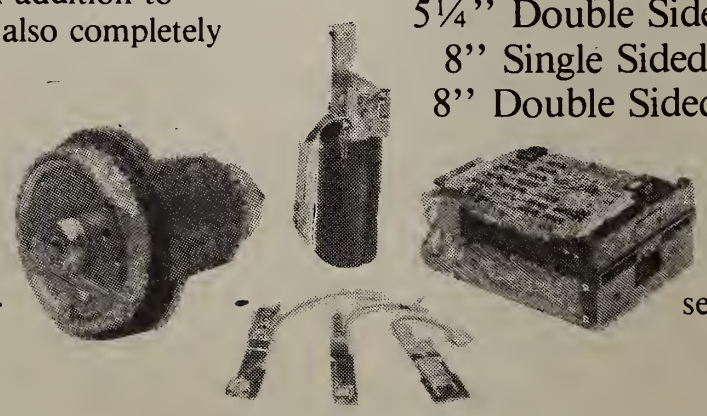

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Totem, by Totem Inc.

Ergonomically speaking, this is unquestionably the best pack on the market. It is the only pack that addresses the painful problem of unequal distribution of weight on the skeleton of the carrier. You wear Totem like a backpack. If you have ever carried a Mac using a shoulder strap for longer than a block, you can appreciate the importance of this fact. Totem is the only pack which is actually comfortable to use. In addition, Totem comes equipped with a unique rigid handle that will not cut or chafe your hand when you carry it as a suitcase.

Totem features several other advantages to the user. It has more inside pockets for documentation, disks, and miscellaneous stuff than many other packs. It has a padded, detachable mouse pack. It will accommodate several different sizes and shapes of modems, a second drive, and a small surge suppressor. If you are really creative, you could probably fit in one of the new thin hard drives as well. Velcro is used to close all closeable pockets inside and out, and to secure the movable dividers. Due to the use of movable dividers, Totem is also the only pack that can fold up. You can store four or five empty Totems in the space of any other pack.

Totems are well padded, use high grade hardware including the finest tooth nylon zipper available (the finer the tooth, the higher the friction coefficient, thus the stronger the zipper), and made of heavy Cordura (a long-wearing, water-resistant synthetic) with a reinforced leather base. Totems are available in five colors: beige, royal blue, forest green, camouflage, and apple red. All Totems are covered by a lifetime limited warranty (don't use Totem as an ashtray or a football and expect the company to fix it), and all costs of shipment and repairs will be borne by Totem. **Totem: $134.50.** Totem Inc., 207 Gough Street #38, San Francisco, CA 94102, (415) 761-7920.

The Totem carrying case for the Macintosh can be used as either a backpack or a suitcase-type carrier. Photo: Ken Goehner.

Second Place
Mactote, by Optimum Computer Luggage

Obviously, most Mac packs are based to some degree on the original Apple Macintosh Carrying Case. While some developers, like Totem, took to radical departures from the basic design, other companies have pursued the idea of improving on the Apple pack. Optimum Computer Luggage is such a company. Their product is a real nice pack, well designed and soundly constructed, far superior to the Apple original.

Aside from the superior craftsmanship, there are several other major differences between the Apple pack and the Mactote. Most obvious is the heavy-duty padding. Mactote was designed with close encounters of the worst kind in mind. It has room for a modem and several more disks and documents than the Apple case. Finally, the strap configuration is different. Viewed from the top, the straps are attached center to center as opposed to Apple's corner to opposite corner. This alters the wearer's vocabulary of movement, but whether the difference is significant or not is hard to determine. Despite very generous shoulder padding, Mactote is still a one-strap bone cruncher.

Mactote is available only in dark blue, and has a one year limited warranty. **Mactote: $99.95.** Optimum Computer Luggage, 9005 Complex Drive, San Diego, CA 92123, (800) 632-4200, (800) 477-0300.

Third Place
The Apple Macintosh Carrying Case
by Apple Computer, Inc.

The great grandaddy of 'em all, an ancient year and a half old. This old feller set the basic design for all Mac packs, and left room for all the improvements. The original design must have looked grand, and indeed, the case does have that pleasant soft sculptured look that says "Apple" even without the logo. The interior is plush; the keyboard, external drive, and mouse pockets are padded. But it falls a little short of the mark.

First, the zipper, which is a large nylon affair, looks friendly and opens and shuts very easily. It also opens when and where it shouldn't, and repair and replacement costs are high. Second, there is no room for a modem, and disk storage space is limited. Third, the exterior padding is very flimsy. Fourth, information on the warranty (if indeed there is one) is hard to come by. Our best guess is that there is a three-month Apple warranty, but we haven't been able to verify that. Your best bet is to consult your dealer, but be ready to hear something you didn't expect; several dealers have been heard to comment that they keep an Apple pack in their shops to help sell Totems and Mactotes. **The Apple Macintosh Carrying Case: $99.95.** Apple Computer, Inc. 20525 Mariani Avenue, Cupertino, CA 95014.

There are a couple of other Mac pack manufacturers out there. An outfit named West Ridge Design from Portland, Oregon, manufactures a virtual clone of the Apple pack (with a better zipper). The price varies with the distributor — West Ridge customizes its packs for different customers. We got ours at the University of California at Berkeley computer store. It sold for around $70.00 complete with a silk-screened U.C. logo, but you have to be a U.C. student to take advantage of that price at that store. We have not seen this pack at any of the conventions or at any other store.

There is also a thing called a Mac Scottie. It is about the size of a Macintosh packing crate, poorly constructed, and uglier than sin. The handles are horrible and there is no shoulder strap of any kind. We found this particular white elephant collecting dust in the corner of a local store. The rep wasn't sure how much the pack cost or if the company was still in business. his comment was something to the effect of "as a Mac pack, it makes an expensive footrest." Avoid this turkey.

To conclude: packs may seem an odd thing to review, but if you travel a lot, they can be one of the most important pieces of soft hardware for your Macintosh. We recommend that you seriously consider the Totem. It may list for a little more, but it pays for itself many times over in comfort and in ease of use. □

Photos By K. Gypsy Zaboroskie

The Analog Backlash — *And Other Pitfalls Of The Computer Age*

While the annual West Coast Computer Faire (held this year from March 30 to April 2) is always a good place to check out the latest technology in the market and pick up items at bargain prices, it also provides a forum for the exchange of interesting ideas.

What follows is a series of excerpts from a conference held April 2, entitled "Computers: Panacea Or Poison?" Speakers raised the sometimes unexpected problems caused by the use of computers in today's world, and sometimes suggested some equally unexpected benefits.

We found all this quite interesting and decided to pass it along, and we invite your comments. Each panelist made a brief opening statement, selected passages of which are reproduced here, followed by excerpts from the session of questions from the floor. (Questions from the audience are in italics.)

Thanks to David Small of The Computer Faire for permission to reprint some of the proceedings.

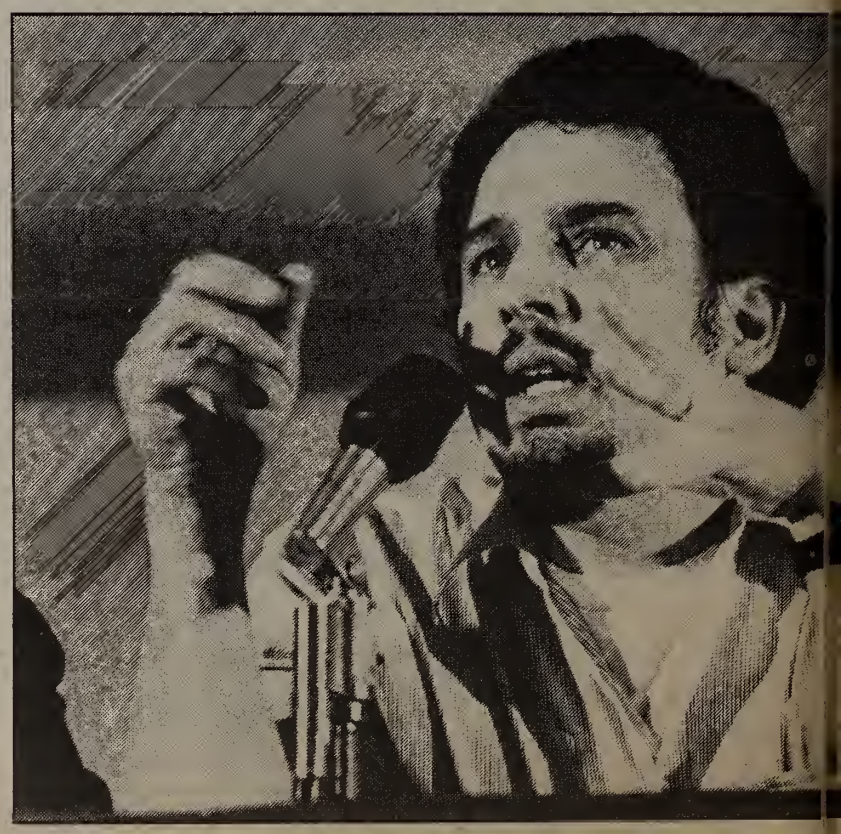
Mary Eisenhart

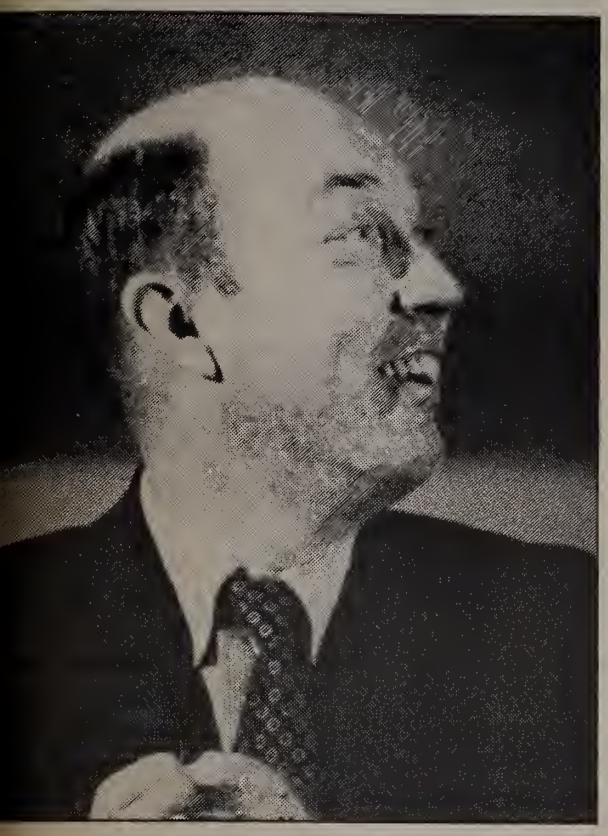
LENNY SIEGEL (Director of Pacific Studies Center, Mountain View; principal author of *The High Cost Of High Tech: The Dark Side Of The Chip*, due in October from Harper & Row; co-author of *Dvorak's Easy Guide To The Macintosh*, from Dell):

One of the clearest consequences of the rise of personal computers is that it's only available to a few. Despite predictions that everybody's going to have a computer in a few years, it looks like not only is just a small percentage of our population going to have computers, but a large number of us might end up not having telephones. Right now the telephone companies are spending billions of dollars to upgrade the equipment to turn our plain old telephone service into the Integrated Services Digital network so the computers can use the lines without even using a modem. That's great for those of us with computers, but it means that the average phone customers will have their rates go up to provide them with no better service. Predictions are that instead of eight to ten per cent of the American population not having phones in their houses it'll go up to 20 or 30 per cent. Similarly, as those of us who have access to electronic mail use it more and more, those people who rely exclusively on the U.S. Postal Service will find that their mail service is getting more expensive and declining.

...The fact is that as we as a society grow to rely on computers more and more in our lives, people in national policy positions [re "Star Wars" and related programs] are deciding that we are ready to let computers not only run much of our lives, but take responsibility for our future. Those of us who work day in and day out with computers know that our computers always screw up.

...I think computers have enormous potential. I use them daily. The question is how are they, as a whole, being used to affect our lives?



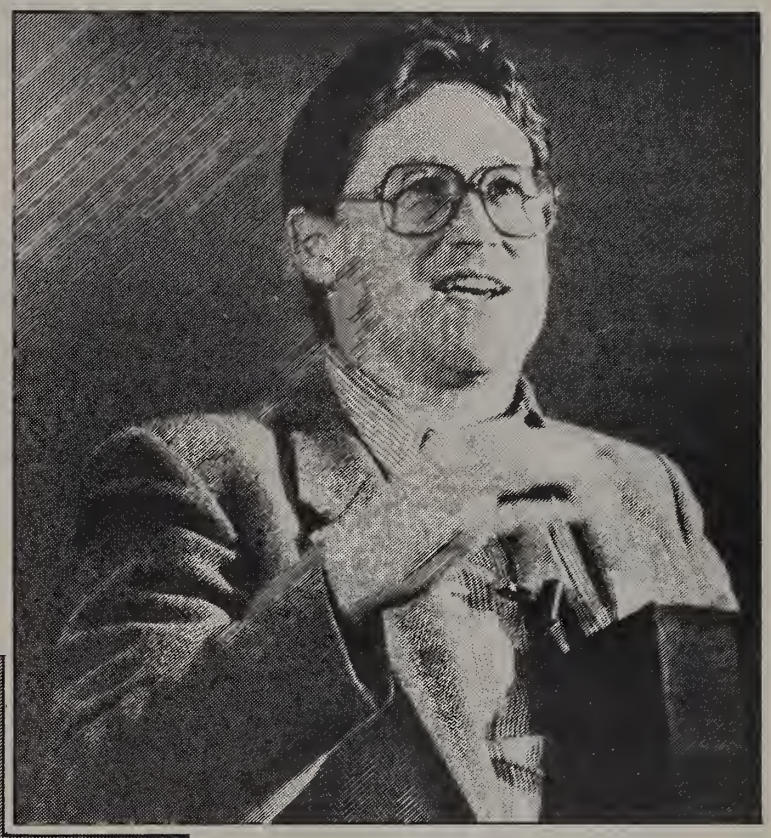


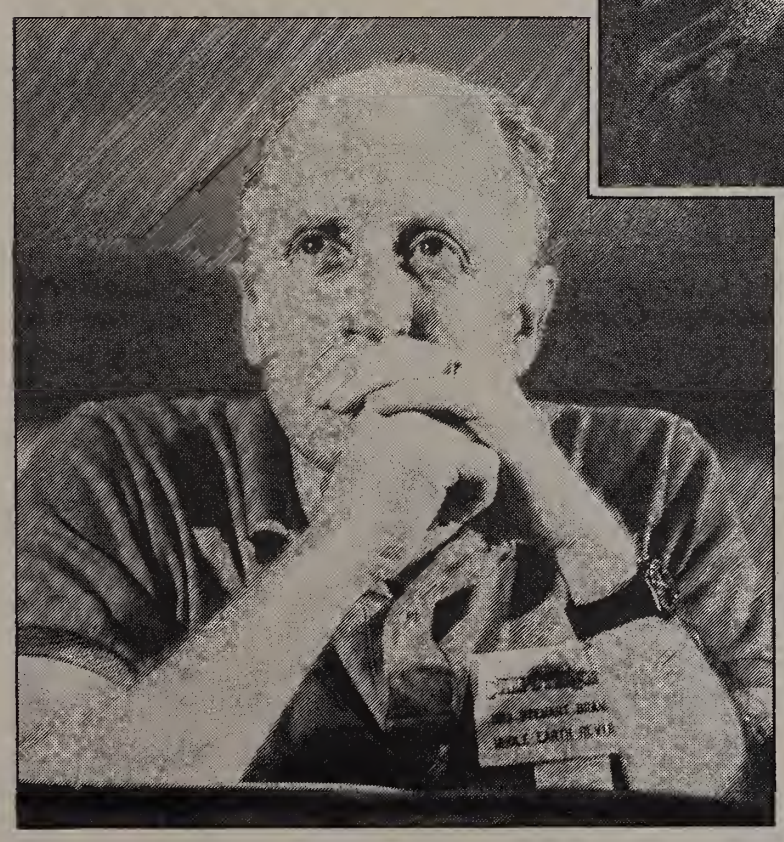
GEORGE MORROW (Chairman and founder of Morrow Designs; creator of various computer-related products; Ph.D. in mathematics; author of *Quotations From Chairman Morrow*):

The day is not far off when all transfers of money will be able to be effected by the use of this [VISA] card or something like it — along with a magnetic stripe and perhaps some kind of voice identification. That's great, because it means that now I don't have to carry money with me, I don't have to worry about somebody mugging me, if something happens to the card I can call up and have it cancelled. And that's the good side of it, but there's a very, very dark side of it. If you can control the transfer of money with computers you can also monitor it.

...Think how effective it would be when, with the use of this card, you can either deny or let somebody get on a bus, buy gasoline, watch his television set, do anything that requires money. Think of the complete control you can have when you can decide when and where a person spends his money. Maybe you're taxed by how good a citizen you are; all done in the best of interests, of course, the interests of democracy, for the good of all the people. But who decides that? The people who program it, or control the programming of it. It's very dangerous.

Now it *will* put completely out of work the normal criminal as we know it, because with one of these cards, if you went out and stole a television set, in order to turn it into some kind of trading goods, you'd have to use this [card]. Well then, just think about who the new criminals will be: only those who know how to fiddle with computers, because they will be the most dangerous [people] in our society.





STEWART BRAND (Founder and editor of *Whole Earth Catalogs*, including *Whole Earth Software Catalog*; publisher of *Whole Earth Review*, the premiere issue of which, last January, featured a cover story entitled "Computers As Poison"; sponsor of 1984 Hacker's Conference):

I notice that Lenny has a digital watch. I have a nice old-fashioned analog watch. Sometimes I think that the whole battle about computers is between digital and analog. We're doing a cover story in the next *Whole Earth Review* on digital retouching of photographs. There's going to be a photograph of flying saucers in San Francisco on the cover, which will be completely believable. You can digitally retouch photographs to do absolutely anything. Which means the end of the last great analog evidence. Photography is no longer a measure of truth — it's just another way to convince.

...Personal computers have at their very technological hearts — put there by Wozniak and other people who put it there on purpose — a basic revolutionary intent, which is that power is most intelligent when it goes up rather than down. So this is a fundamentally democratic technology — there's lots of ways it can be misused, but the personal computer was devised as an anti-computer. It was devised by people who'd had it up to here — not so much with IBM as the reality but IBM as the idea, a monolithic controller of information. If you could get a *personal* computer, was the idea back in homebrew days, you could at least meet that and ideally undermine it.

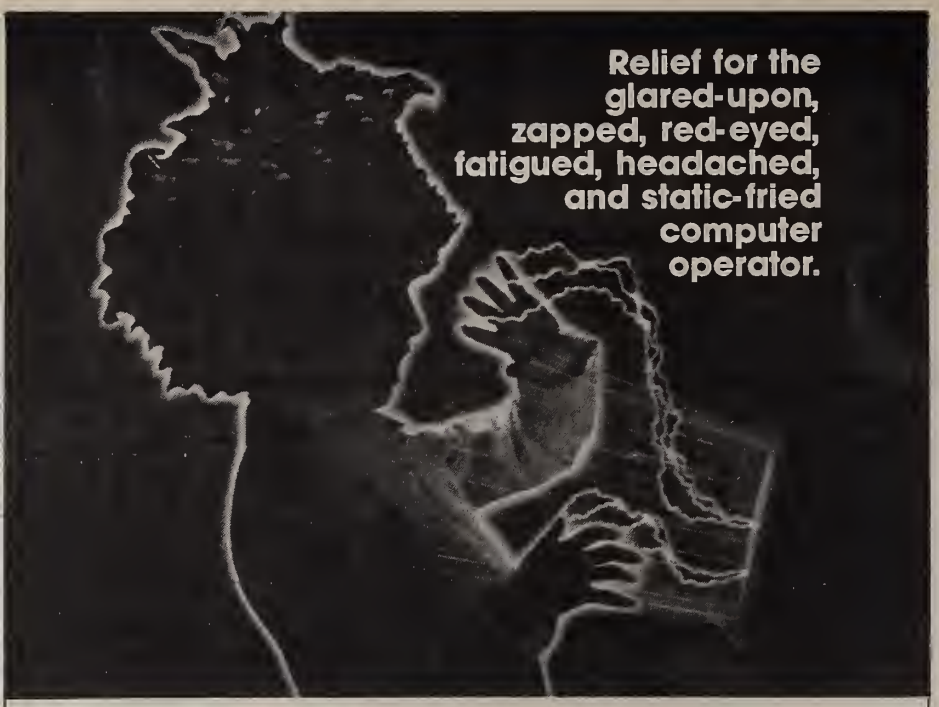
So while I'm more apt to agree that some of the mega-uses of computers, because they *are* mega, have problems built in, a lot of the way you get ahead of that is by being as sophisticated and as inventive and have as much fun as you can possibly have with personal computers, and you'll stay ahead of 'em.

JOHN DVORAK (Author and columnist in various computer publications, including *Infoworld*, *Computer Currents* and the *San Francisco Examiner*; apostrophized by moderator John Larsen after this speech as "The Henny Youngman of the computer world"):

George drones on and on about this money thing. I mean sure, I suppose people would prefer the non-technology-oriented society where you have the SAVAK or the Korean KGB, who don't use computers and therefore *obviously* there's an element of freedom.

...I just don't see the matchup. I tend to believe that computers, if anything, democratize information to such an extent that if you can slip a compact disk into your pocket, it holds 500 megabytes of information and it can be passed around — you're not talking about a couple of Russians out in Siberia slipping around a big typewritten manuscript from Ivan to Ivan so they can read something nasty about the government. I mean, we're talking about *lots* of books.

I think this kind of thing is going to improve society as a whole, and I think computers are great. Besides that, they're a lot of fun and there's a lot of people that got to make a lot of money that probably wouldn't make money otherwise.



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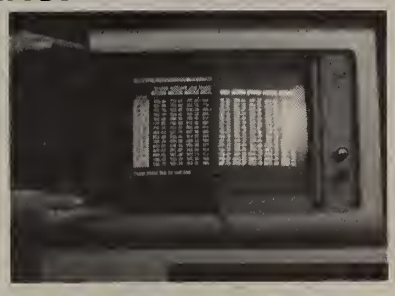

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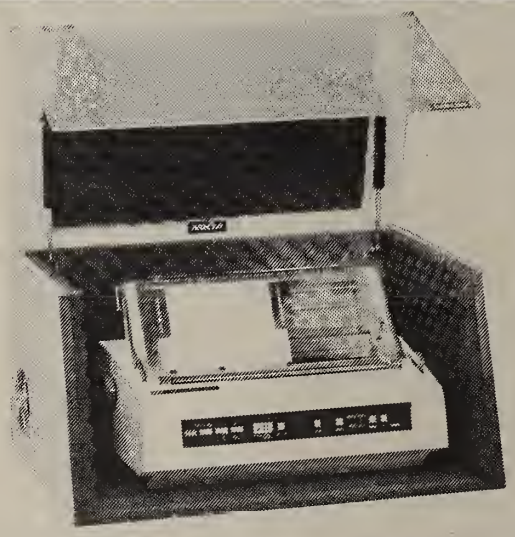

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The Analog Backlash

QUESTIONS AND DISCUSSION

Most of your problems seem to be with the social use of computers rather than with the technology as such. Is there such a distinction, and in that context, what good does it do us to know if it's good or bad if we can't do anything about it?

Morrow: To think about the good or the bad means that you have the option to do something about it before it happens. If somebody can describe a disaster before it happens, maybe somebody can figure out a way it might not happen, or be as bad.

This business of technology: guns don't kill people, it's someone putting it in their hand and pulling the trigger, but we still think we ought to have gun control.

Brand: If you have a pessimistic view of everybody, these technologies tend to take on that coloration, and because they're future-oriented, you figure there's a black future ahead because people are basically bad.

If you're the kind of person who writes down "optimistic realist" on your questionnaire — my entire generation from the '60s did that, and what we get loaded on now is the next psychedelic, which is computers, and we can't wait for space. It's the same goofy optimism we had then.

Siegel: The personal computer movement grew from the movement of hobbyists who did not like the concept of the big IBM, the military controlling computers. When the microprocessor was invented, people said, "We want our own machines," and they made them.

It's not clear exactly what the choice is going to be next year about how we're going to develop the technology, but it's important for those of us who are learning about the technology and have access to it to figure out how we will use it, not only for our own good, but how we can use it on behalf of social causes or ideas that we favor.

It's a hard fight, but that's a fight that's going to go on, to determine whether the technology serves what I consider the needs of the population as a whole, or of only a handful of people or institutions.

Do you want to talk about the phone company in that context?

Morrow: There is certainly going to be some competition for sending either zeros and ones or normal voices over the phone lines. They certainly don't have the capability of handling both, so there will be more and more competition for the use of those wires, and the business of having to pay more for it is probably a fact.

Brand: Some of us are trying to do open-ended, low-cost telecommunications — we have a thing called The WELL, just starting up in Sausalito for the entire Bay Area. It's going to be extremely low-cost, partly because AT&T in pieces has got earnest about actually doing things that people want. So they're doing packet switching for the Bay Area — it's one of the first places in the country to get that. People can get on our teleconference system for a dollar an hour access fee, instead of calling from San Jose to Sausalito for $15 an hour. This, they claim, is probably a couple of years ahead of what AT&T as a monolith would have done — they're competing for business, they're moving ahead closer to where the technology is rather than what the market will bear.

What effect will selling computers as appliances, tools, etc., and not as computers, have on their penetration of our society?

Morrow: We're doing that now. Radaranges have computers in them, and no one knows about it, or at least it isn't obvious, and that's exactly the way a computer should be. It should always be *behind* the door, and certainly away from where you have to deal with it as a direct device.

(Lee Felsenstein, designer of Osborne I, co-founder of Community Memory in Berkeley): I for one do not want to see computers become appliances which are invisible and un-accessible except through the approved ways of using them. Put 'em behind the door, but make sure there's a service panel in the back.

The impetus for the personal computer came from the urgent desire to make sure we could get in as deep as we wanted to go and mess around with it. Most of the people who did that didn't really have anything they wanted to do to them or with them, but they sure wanted to make sure that anybody who did want to get in could.

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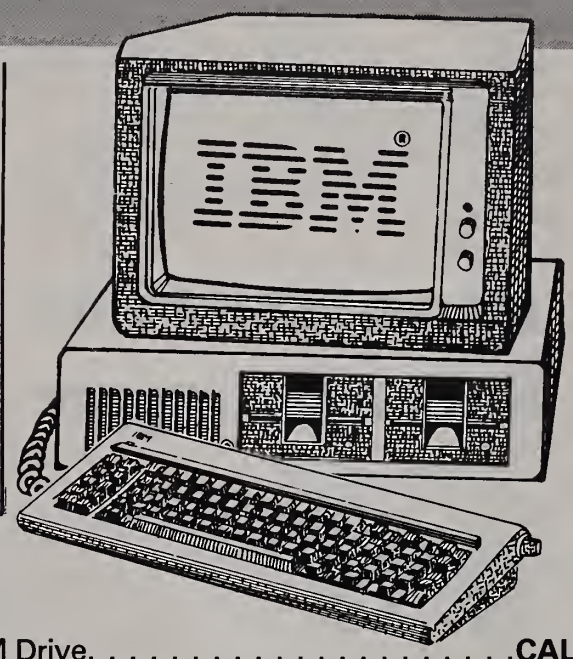

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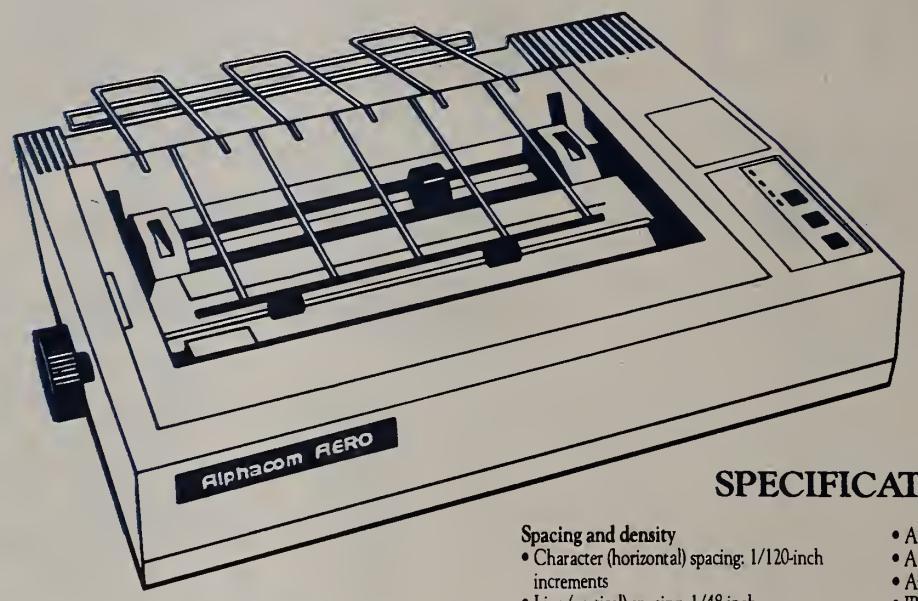

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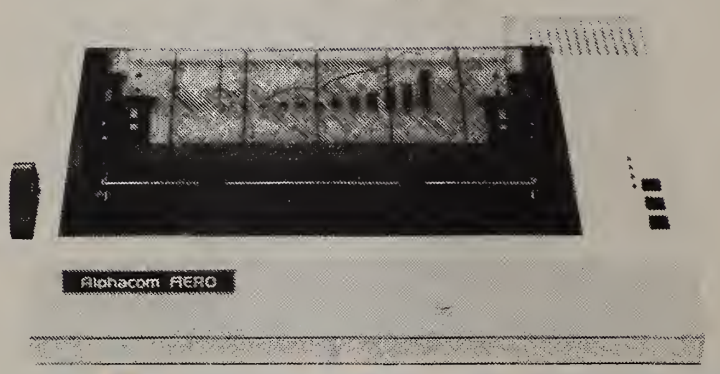

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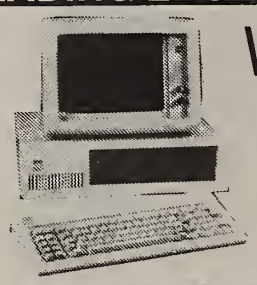

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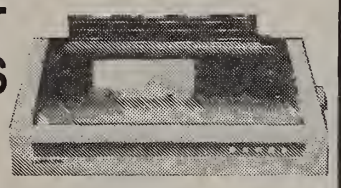

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Morrow: I think it's a mistake to think that all of us who got involved in the early days that didn't want to do anything with the computer besides be near to it — that was the image, that everybody should want to do that. You know, there *are* people who want to use a computer as a word processor and don't want to spend three years reading the manual.

Brand: Lee, was it part of the design notion at the beginning that what you guys were intending to build was general purpose computers? Or is that just simply what happened anyway?

(Felsenstein) That was indeed what we were after, because no one could agree on what they wanted to use computers for.

Brand: That's highly admirable. I continue to be impressed.

Morrow: Why should we continue to spend our money on devices that don't *do* anything?

Brand: Because they might do something we don't expect, that's why.

Why did computers not receive the public wrath that, say, nuclear power and genetic engineering did?

Brand: I have the answer to that. All the good liberals have Kaypros, and they're writing with them.

I think that the lack of criticism is actually something we *should* worry about, and the only reason I can see for it possibly is that's it's a moving target, it's moving faster than critics can move.

I should add a footnote. The liberals use Kaypro. The radicals use Morrow.

Morrow: An unkind cut.

Brand: No kidding — I went to the user's group in the East Bay and they're astonishing — looked like a meeting of Veterans of Foreign Wars in terms of age, but the politics was *great*!

Dvorak: Don't leave out the Macintosh-using Yuppies.

Brand: They have no politics whatever. They wouldn't know a politic if it bit 'em.

You were talking about digital vs. analog. I've noticed that no philosophers any longer talk about the human being as "the rational animal" because we've externalized rationality to a great degree in machinery. Somewhere out there if digitizing continues, there's an analog reaction building up. Do you see its shape anywhere?

[From audience] Music!

Morrow: Music has stopped being analog. I went into a nightclub the other day and there was nothing but electronics where the stage and the musicians used to be.

Dvorak: Yeah, but the *interface* is still analog.

Morrow: Wait'll the computers start coming to the nightclubs.

I understand now that they're fighting in the recording studios about whether stringed instruments should be allowed to be digitized or not. Recording now has become almost entirely digital.

I work as an audio technician, and I will not have digital sound in my house, and I won't work on it.

Morrow: This man should get a round of applause.

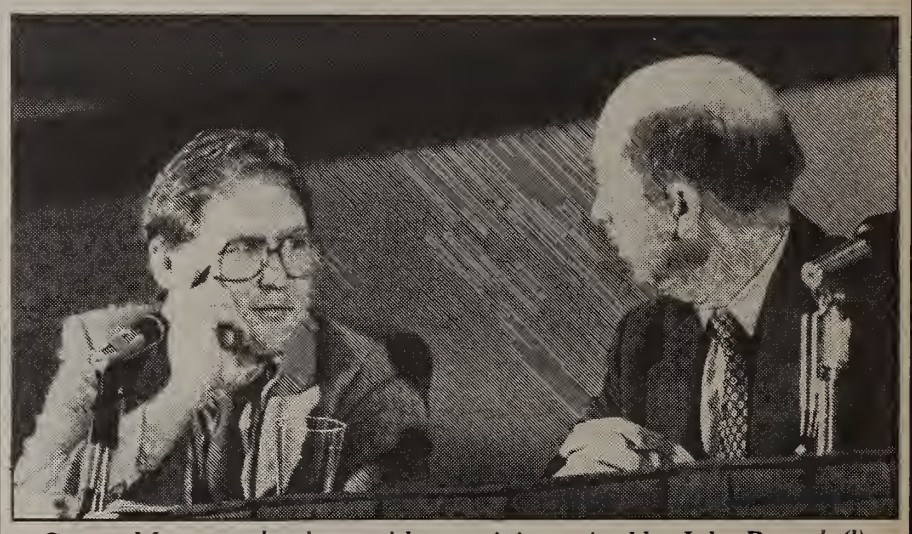
Brand: Wait. Wait. Why?

In my opinion it causes extreme stress.

Brand: Digital sound causes stress? It's not natural?

No, it's not a metaphysical argument. But if you spend a lot of time editing a digital soundtrack, you get stress diseases.

Brand: Are you suggesting that if we get CD's something's going to go wrong with our nervous system?



George Morrow takes issue with an opinion voiced by John Dvorak (l).

Morrow: CD disks are not the same as synthesized music. CD disks are a reasonable approximation of what good analog sound sounds like. But what we are creating in terms of sound with these digitized systems is not natural sound. It's a long way from it.

Brand: George, if you can't tell the difference, there *isn't* a difference.

Morrow: Well, *I* can tell the difference, and I'm 51 and my hearing's

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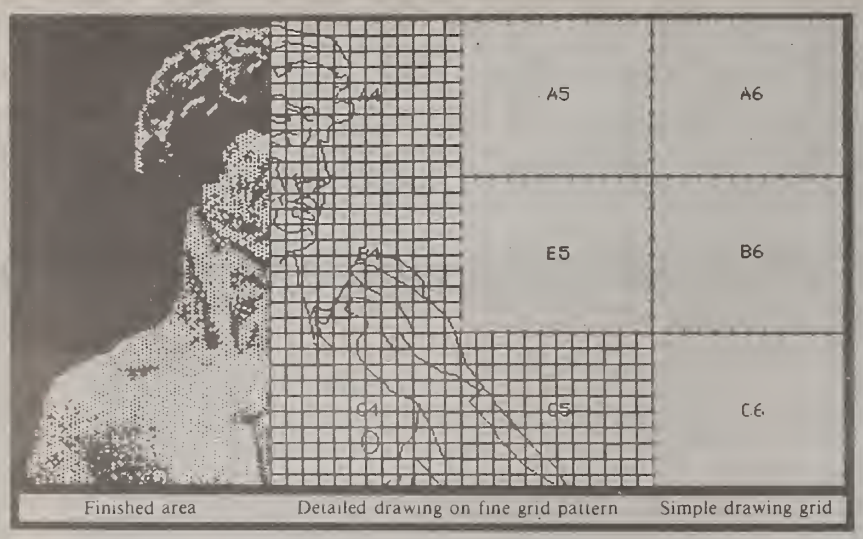

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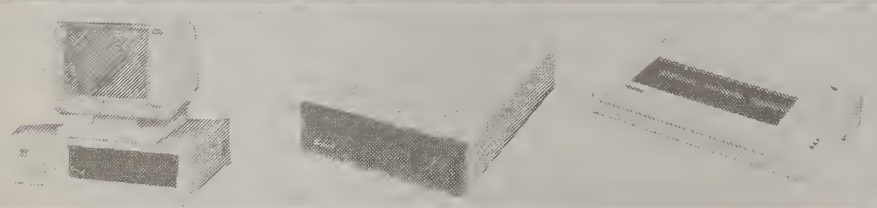

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gone to hell. Now maybe yours has gone farther than mine....

[Re question of rationality externalized in machinery] This gentleman touched one of my raw nerves a few minutes ago, talking about artificial intelligence. We like to think that we understand how to reason, and there are a lot of people who think that they can try to build some approximation on this into a computer. I don't think we have the slightest idea about our reasoning processes, and I think it's really dangerous to think that we can then teach some machine to mimic only a tiny part of what we've been able to recognize.

Too many times, and too often, little voices tell you something, and you don't understand why they do, but it's an honest-to-God part of our reasoning, that we haven't the slightest idea how it works. And the way I've managed to explain it has to do with lines and planes. I think of our present methods of reasoning as lines and planes. I think of our present methods of reasoning as linear: you progress from point to point. But if there's really a plane there, and you're only aware of the line, a person can go out on the plane, and get from one point to another, leaving that line, and you can't understand how he got there, if all you can do is see along the line.

And I think that's a component of our intelligence. There are many components that we haven't the slightest idea about, yet we're trying to model machines on this little tiny part of it that we *do* understand. And I think that it's really dangerous, and worse, futile, and I hope the Japanese keep up with it.

Brand: I have a question. Earlier in the discussion the values associated with freedom and personal liberty as far as computers were concerned seemed to be associated with small personal systems, whereas the values associated with monolithic dominance were associated with large centralized systems. This seems to be the year in which Local Area Networking can combine many small systems into larger ones. As personal computers are merged into local networks or larger units, does this mean that these undesirable mega-type features may surface in the networks? Are we going to have the best of both worlds or the worst?

Morrow: The criminal justice system used to look on somebody that accessed your database either accidentally or because he was curious about it as someone to tap their hand lightly and tell 'em please don't do it again. Now they're coming down much harder on them. So it's possible as these machines get integrated into perhaps some wide network that encompasses the large and small machines that if you do *anything* other than what you're supposed to you could be clapped in jail. That's the dark side of it. The light side is, maybe there'll be so much of it going on it's impossible to enforce it, and maybe it will democratize it or open it up. I don't know.

Dvorak: I dunno. There's these five kids in the second row, and hey, there's no problem. These guys'll crash anything on the West Cost, you can tell by looking at 'em.

Morrow: But if they shoot them for doing it....

Dvorak: But they're juveniles....

Moore: They put Cap'n Crunch in jail.

Dvorak: Yeah, but he wasn't a juvenile.

Siegel: I want to respond a *little* bit more seriously. In *1984* people could not turn off their telescreens. The important thing is to, not only legally but on a practical basis, maintain the ability to disconnect our machine. I think we're much safer if we unplug the modem or whatever other device we have to connect the machine.

Dvorak: You know, Lenny, I think it's funny that you and George both go on and on about how the telephone lines are so overloaded, with just a few people using modems. Yet there's this huge fear of everybody being networked in somehow. You can't even get a line into CompuServe!

Morrow: That's right. If this computer networking system gets going, it'll all come to a halt, at least with today's wires.

What do you think about IBM's price reductions on the XT and PC's?

Siegel: I think the price reductions are going to be continuing, and that computing power is getting cheaper and cheaper. It *appears* to be more accessible to the average person in this country. I would contend that the price of software — for those who pay for it — the service, and learning how to run the machine, still will make the price of computing prohibitive to the average person in this country.

Morrow: My feeling is the adventuresome people, that are willing to put up with the hassles of being close to their computer and using it — we've used up most of those individuals, and the rest of society doesn't really get off by getting close to their computer. They want to *use* it for something. And I think we've all found that you can't stuff too many more down the throats of an unwilling populace. □

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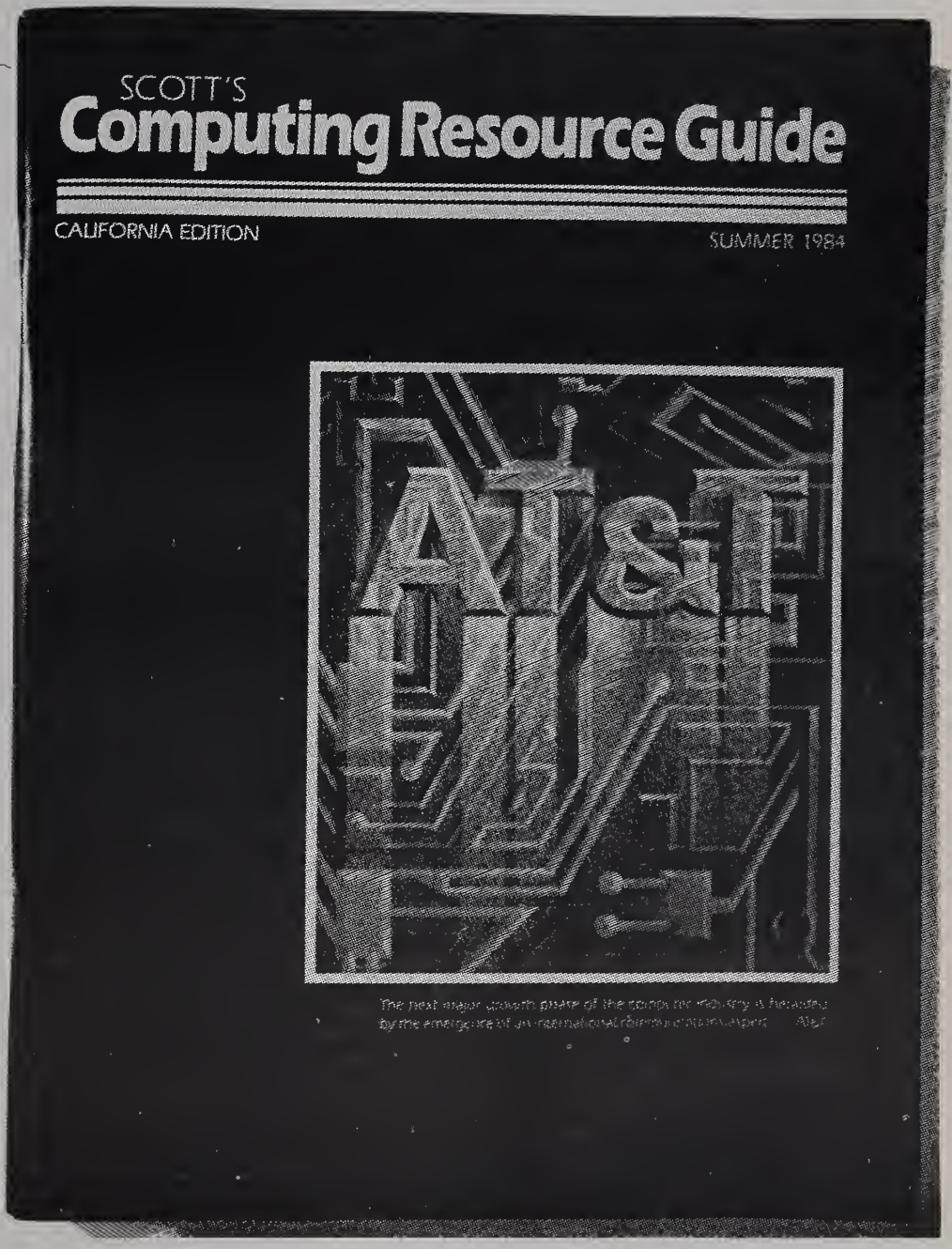

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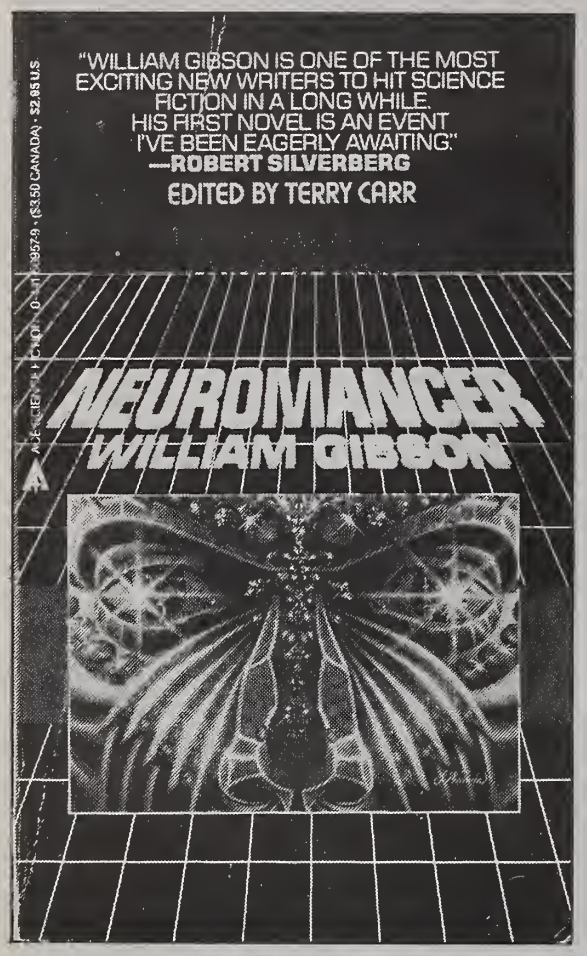
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Neuromancer

By: William Gibson
Published by: Ace Science Fiction Books, New York, 1984
Cost: $2.95 (paperback)

One of the great oversights of science fiction in the past few decades was its almost complete failure to predict the technological and social impact of the computer. Pick up any Sci-fi anthology of the 1950's and you will find spacecraft navigators calculating their trajectories with slide rules (footnote for younger readers of MICROTIMES: the "slide rule" was a primitive analog device that used mechanically superimposed log scales to perform simple arithmetic operations. In the precomputer age they were carried by scientists and engineers). William Gibson's first novel, *Neuromancer*, projects current developments in biotechnology and microcomputers into the twenty-first century (we never find out the precise year in which the story is set). It is a grubby future, peopled by some pretty grubby characters, but the hardware and software created by Gibson's imagination are dazzling.

Case, the anti-hero of the story, is a 24-year-old professional hacker, or "cowboy," who breaks into systems by projecting his disembodied consciousness into them. Caught in an attempt to double-cross one of his employers, Case was given a neurotoxin that destroyed his unique talents. At the beginning of the novel we find him lost in the underworld of future Tokyo, a nightmare landscape of black market electronics, exotic drugs and ninja-trained assassins.

On one level, *Neuromancer* is a detective mystery; a gradually unfolding search for the shadowy forces that are manipulating events. One is reminded of the plot of the movie *Chinatown*. On another level, the book is a classic anti-utopia story, a future gone bad, as in the movie *Blade Runner*. And on another level yet, the novel is about ICE — intrusion countermeasure electronics — the active defenses of the data banks and other entities that inhabit "cyberspace." A careless attempt to penetrate ICE can leave the trespasser "flatlined" — the flat electroencephalogram indicating brain death. Icebreakers, of course, are the programs, originally developed for military use, that can penetrate ICE — the classic race between guns and armor transplanted to electronic networks.

Many of the technologies that underlie this novel seem farfetched. We are still very far from a direct data link between the human nervous system and a machine intelligence. The idea of an entire human personality being stored as a ROM construct is equally outlandish. But then again, many of the things we do every day would appear to an educated, intelligent person of 1925 as the most outrageous science fiction. I believe *Neuromancer* will be of great interest to most readers of this magazine. Get it. Read it. Pass it along to friends.

— Mike Markowitz

Technostress: The Human Cost Of The Computer Revolution

By: Craig Brod
Published by: Addison-Wesley Publishing Company

Few of us pause to evaluate the impact of a new technology on our culture, our psyche, and our personal relationships. Unless there is noticeable damage to our physical self, like hair falling out or a change in a wart or mole, we prefer to leave such ponderings to the "ologists" and Andy Rooney.

In *Technostress: The Human Cost of the Computer Revolution*, psychotherapist Craig Brod examines the effects of computers on the people who use them, and the picture is not a pretty one. Brod observes that the computer revolution has created two classes of workers: those told what to do by the computer and those who tell the computer what to do. "The former consists of those who, bored and edgy, spend their days in front of the screen obeying commands. The latter struggle with machinery deadlines and the intellectual demands of producing more and more programs, feeling just as disgruntled as their subordinates."

Brod uses the term "technostress" to describe the "inability of an individual to cope with computer technologies in a healthy manner." Physical symptoms include headaches, neck and back problems, and visual fatigue, and Brod is not the first to discuss these. Perhaps more important, because they are less obvious and more insidious, are the emotional symptoms, which are the focus of Brod's work.

Technostress appears in two forms. One is anxiety arising from fear, resistance, or ambivalence towards computer technology. It is common among people who feel pressured by their employer, family, or our culture to become computer literate. Technoanxious people may worry about learning to use computers, which is rarely as easy as ads lead us to believe. They experience embarrassment and self-doubt if they are unable to understand procedures immediately. Predictably, this leads to mental and physical fatigue, low morale, and decreased productivity. Brod notes that workers often become so frustrated, they resort to acts of sabotage. (If you know what coffee does to your stomach, you can imagine what it does to a terminal.)

Another type of technostress is over-identification with computer technology. Technocentered people are so caught up in computer technology that they "internalize the standards by which computers work: accelerated time, a desire for perfection, and yes-no patterns of thinking." Conditioned to a response time for computers measured in nanoseconds (one billionth of a second), technocentered individuals are annoyed by the slightest delay. Machine structures and order are imposed on their personal life. Such people become irritable when things are not in their usual place or something interrupts their routine. Communication becomes terse, thinking becomes rigid, and there is a marked impatience with anything more than a yes or no answer. There can be no ambiguity. Everyday social interaction is often seen as an intrusion, and the technocentered person tends to become more withdrawn.

Brod's interest in technostress began when a patient, a computer programmer suffering from depression and marital problems, jokingly remarked that his wife "made a horrible peripheral." Further sessions revealed that it was not the man's personality or past experiences precipitating his difficulties. Rather, the problem was "inherent in the work itself."

Brod spent three years interviewing people of all ages and at all levels of computer involvement. His purpose is not to vilify, but to enlighten. In identifying problems, he offers suggestions for couples, parents, managers, teachers, and psychologists, from both a practical and a humanist standpoint.

The book has been criticized by people in the industry as being anti-computer. But anyone who works with computers, knows someone who works with computers, or has been served by a computer will, as I did, find the scenarios uncomfortably familiar. For instance, a programmer friend has recently taken to interrupting me with "so does that mean 'yes' or 'no'?" And now I think that the automatic teller that spits out my money in 6.5 seconds is slow. And a writing colleague complains that whenever writers get together nowadays, instead of talking characters, or plots, they talk about their disk drives. He notes that if he talked that much about his typewriter, he would have no friends.

Technostress is clear in both its style and its conclusion: "We must learn what computers can and cannot do, study how they are used and can be used in the future, question their impact, and develop appropriate strategies that allow high performance and personal well being to coexist."

— Pamela Pescara

Software Royalties For Life

By: Jesse A. Jones
Published by: Concho Corporation
Price: $29.95

You look around and see other people getting rich, people no smarter or more ambitious than yourself. "How come?" you ask yourself. "How come I'm not raking it in, too?"

In his book on how to market a software idea, Jesse Jones offers some useful advice. He recommends that you use creativity and imagination to channel your idea into an efficient and appealing product. He recommends that you take time to come up with a catchy or serious name. He recommends that you price the software based on the services it will provide.

Jones, however, fails to follow his own advice. *Royalties For Life* provides some tips but little of the in-depth information that a prospective entrepreneur requires. The book's title (its cover shows a graphic of an expanding dollar-sign) is indicative of

the promises which continue to be made but are never fulfilled in the text. And the $29.95 cost of the paperback — advertised in computer publications under the headline: "HOW TO EARN A MILLION DOLLARS...WITH YOUR SOFTWARE IDEAS" — is outrageous for 136 pages (19 of which are blank) of very basic, poorly written commentary.

Jones is a salesman and not a writer, and his prose is full of cliches, redundancies and lists.

There are lists of cost justification determinants, positive personality factors, documents needed for a presentation and steps to go through to set up a company. The lists touch upon sound business fundamentals, but the short explanations of the themes are limited in scope. One list, for example, is intended to preface a section on how to turn an idea into a product. The list indicates some important themes:

1. SOUND IDEA
2. APPROPRIATE CHOICE OF COMPUTER LANGUAGE
3. CLEAN DESIGN
4. USER FRIENDLINESS
5. CLEAR DOCUMENTATION
6. FULL FEATURES
7. FLEXIBILITY
8. EXPANDABILITY
9. EFFICIENCY
10. TESTING AND VERIFICATION

According to Jones, this list "contains most of the characteristics necessary for a successful computer software product with a long life cycle." And, indeed, Jones offers a good list. But his explanations of the themes, in brief, almost outline form, over the next seven pages, do not provide the kind of information needed to take an idea through the complex stages of product design.

We are reminded throughout the book that Jones has sold more than 11 million dollars' worth of software in 15 years, and that he considers himself among the best salesmen in the world. Since he is a salesman, one wonders why he tried to write a book. The reader can't escape the notion that all Jones wants to do is sell, sell, sell. He doesn't teach or explain or entertain. He sells.

The book's literary faults would be excusable if Jones were able to exceptionally communicate his expertise in the field of marketing. But nothing about the book is exceptional, although some of the tips on salesmanship are intriguing.

One chapter, called "The Power Of Positive Visualization," consists mostly of Jesse Jones' tips on how to overcome fear and lack of confidence. The visualizations — imaginary scenarios of yourself greeting executives, making successful presentations, closing a deal and running your company — are intended to "replace the negative self-image that is common to most everyone."

In a chapter he calls "The Possible Dream Presentation," Jones takes the reader along as he tries to persuade "Tom, Dick and Harry" of a fictional software company in Philadelphia to purchase *Key-2* — a fictional program designed to reduce "the coding, testing and documentation of COBOL application programs by 30%, or more, in comparison to the standard COBOL compiler." The salesman prepares documents and a flip chart, he builds his confidence through the four stages of visualization, stays in a first class hotel when he arrives in Philadelphia (the extra money spent on the best hotel, Jones explains, "lifts my spirits"), goes jogging at 6:30 in the morning to get ready for his 10:00 A.M. appointment ("I'm a morning person"), gives his cab driver five dollars for $2.50 fare .... You get the idea. Well, he jokes with Harry, talks football with Dick and Tom, runs through his flip chart and closes the deal.

In the fictional software sales, Jones promises Tom, Dick and Harry profits and publicity. After he signs the contract with them, Jones turns to his reader, still making a sales-pitch: "**COMPUTER SOFTWARE IS THE MOST EXCITING AND PROFITABLE BUSINESS IN THE WORLD TODAY,**" he proclaims in bold-faced type. "There is **no reason** why you cannot share in this 10 Billion Dollar per year industry and collect your *Royalties For Life*."

By the end of the book, it is clear that Jones' primary product is, simply, himself. He published the book himself, set up his own software company after finishing the book, and offers his own name and address as a consulting contact in case you and your idea need "additional encouragement and assurance." Thanks, Jesse, but what we really needed was more anecdotes, information, and guidance in your text.

His book contains too many ad-man slogans and reads like a combination of a Dale Carnegie self-confidence primer and a Dress-For-Success-style religious pamphlet. *Royalties* offers lots of hints on image and packaging but not a lot about what's underneath.

If you get to the point where you have a marketable software product, *Royalties For Life* might serve as a useful sales-technique handbook. Meanwhile, here are some other books worth looking at: *The Complete Software Marketplace* by Roger Hoffman (Warner Books), *Silicon Valley Guide* (to financial success in software) by Daniel Remer, Paul Remer and Robert Dunaway (Microsoft Press), and *Up And Running* (adventures of software entrepreneurs) by Charles "Ed" Sherman (Ashton-Tate).

— Mitch Gelman

Compute!'s Guide To Adventure Games

By: Gary McGath
Published by: Compute! Publications, Greensboro, NC (1984)
Cost: $12.95

Text adventure games can be extremely frustrating for the beginner. Since most game reviewers are usually fanatical true believers, or at least experienced players, reading a review may not be too helpful to the buyer. Before shelling out forty or more hard-earned dollars for a game, it might be advisable to invest thirteen or so in this little book for some good advice.

Beginning with the first "crude" adventures written in FORTRAN and ARPAnet mainframes (back in the prehistoric early 70's), Gary McGath traces the evolution of the art form. Many early games were simply copies of the "Dungeons and Dragons" format. More recently, science fiction themes and mystery novel forms have become more popular, and some of the better game designers have tried to tone down the level of violence in the games.

The common feature of all adventure games is interaction between the player and the program: the player types in commands and the program responds by having the character move, manipulate objects or perform other actions. The best games require the player to use imagination and creativity to solve a series of puzzles that advance toward some defined goal (collect treasure, kill the evil wizard, find the guilty suspect, discover the lost city or save the earth for example — hopefully not all in the same game.) The heart of a text adventure game is the "parser": a set of routines that analyze and interpret the player's commands. A sophisticated parser can handle complex commands, and respond appropriately to a wide variety of inputs. This contributes to the illusion that one is interacting with a conscious entity, rather than a set of arrays, logic rules and "if ... then ..." statements. Still, when you tell one of these little entertainments to DROP DEAD, it will probably respond with a message like "YOU AREN'T CARRYING ANY DEAD."

Individual chapters review the products of Infocom, Scott Adams, Sierra On-line, and other software publishers. The list is not exhaustive or fully up-to-date as of the end of 1984, but a good selection of popular titles is covered. Overall, the reviews are thoughtful and critical. Cryptic hints are provided for some games, to help the player without "giving away" the whole show.

The chapter titled "A Field Guide for Frustrated Adventurers" is worth the price of the book. It explains in detail how to map out a maze, and provides extensive advice on problem solving, illustrated with clever examples:

The eastern wall of the room has a large red heart painted on it
> **KICK HEART**
Why would anyone kick a heart?
> **PUSH HEART**
Pushing the heart doesn't do any good
> **PUSH WALL**
Pushing the wall doesn't do any good
> **BREAK HEART**
Heartbroken, the wall collapses into a shower of tears
> **GROAN**
I don't understand that

A chapter on "How they work" clarifies the structure of the adventure game, with lucid explanations of such concepts as the Main Loop, the Parser, the Internal Map, the Object Descriptor Array, and Action Routines. For the first time, I was able to understand how a game actually works in software terms, and how much the designer has to pack into a few thousand lines of code. The chapter on "Doing Your Own" provides a wealth of suggestions for the aspiring game programmer, using a "pseudo-code" notation that is readily translatable into any high level language. The advice to "design first and code afterwards" should be engraved on every programmer's heart in letters of fire.

Finally, a tiny adventure, *Tower of Mystery*, written in about six pages of BASIC, is provided. It looks like a lot of typing, but it illustrates in working form many of the ideas discussed in the book. (There are alternative versions for Atari and TI BASIC as well as the Microsoft standard.)

Anyone serious about computer adventure games will find an abundance of good things in this book. It is spiral-bound, like many software manuals, so it will lie flat on a desk, and the laminated cover will resist blood, sweat and tear stains.

— Mike Markowitz

1985 Computer Buying Guide

By: The Editors of Consumer Guide
Published by: Signet
Price: $4.50

This little paperback attempts to rate the best personal computers, peripherals and software in the space of 384 pages. "Computers" here includes chapters covering IBM Compatibles, Portables, Home Computers and "Other Computers." Periph-

erals include Disk Drives, Hard Disks and Tapes, Modems, Monitors, Multifunction Boards, Printers and some interesting miscellaneous items. Software reviews represent a little less than half the book, with a handful of popular titles in the categories of Communications, Data Management, Educational Software, Financial Software, Games, Integrated Software, Utilities, Word Processing and others.

In general the reviews are not highly critical; almost nothing is rated less than "7" on a ten point scale. Computer reviews run from one to three pages, and include a small photograph, basic specs and some sharp, knowledgeable observations. Prices reflect mid-1984 suggested retail, but across the bottom of every page the authors remind you that "prices may vary; shop for discount prices."

For the money, the *1985 Computer Buying Guide* is an excellent value. For the beginner, or anyone who needs basic reference information on a variety of systems (like *Microtimes* writers often do), it will be a useful desktop companion. For software reviews, however, the big catalogs and specialized periodicals are your best source of up-to-date product information.

— Mike Markowitz

Making Music On Micros

By: Fred T. Hofstetter
Published by: Random House, 1985

This package is for users of the IBM PC or PCjr, Apple II, Apple II+, Apple IIc and IIe. IBM PC users will need a color graphics monitor adapter for some of the programs included. Apple II users must have 48K RAM with Applesoft ROM or language card. Note to Apple users: The Apple version of this product contains enhancements to Apple BASIC that enable you to use "sound," "play," and "draw" commands similar to those found in IBM BASIC.

The idea of teaching yourself music and BASIC programming from the same book at the same time may seem far-fetched at first: you would not, after all, try to learn, say, French and German this way.

Fortunately music and BASIC are not much like French and German, and *Making Music On Micros* is a lot more fun than learning is usually assumed to be. In addition, this book and the diskette that accompanies it are ample testimony that computer music doesn't have to be weird music.

In *Making Music On Micros* you will discover not only the rudiments of music (pitch, tempo, touch, notation, and the like), but also the commands that turn your computer into a musical instrument to play the programs you write for it.

These topics are introduced in a step-by-step, orderly fashion that shouldn't lose anyone on the way. The documentation is plentiful and easy to understand. Readers already familiar with the basics of music and BASIC should at least scan through the early sections of the book before running off to the special effects chapter to produce glissandos, portamentos and pizzacatos.

The section on composing melodies is particularly helpful. The topics introduced include time signatures, rhythms, motives and phrases. There are fine examples of reading musical notation to spot motives and variations on motives, and the programming techniques used in this chapter begin to introduce the notion of macros in a painless way. The composition exercises are helpful in showing how melodies are constructed, and by the end of the chapter you will probably be able to write folk songs for your computer.

There are some aspects of music that are not easily taught on personal computers, and, in general, *Making Music On Micros* steers clear of these. Most of our computers are incapable of making "multi-voiced" music, so chords are a problem. For PCjr owners *Making Music On Micros* does include a chapter on multi-voiced music. Further, the "play" command does not easily recognize key signatures, so musical keys and transposition receive only scant attention.

On the computer side of things *Making Music On Micros* teaches several things apart from techniques for using the "sound" and "play" commands. You will learn how to use BASIC to create menus to manage the programs/tunes you create. For those inclined to graphics, subroutines are provided to draw commonly used musical symbols (staffs, clefs, etc.) on the screen so you can translate your programs into standard musical notation. The diskette included with the manual contains sample programs illustrating the use of menus and the graphics subroutines.

Making Music On Micros is an excellent learning tool that will more than repay you for the time spent typing in commands in BASIC. You might discover that you have a talent for music or programming or both, but even if it turns out that you are not the Beethoven of personal computers, this is a book you will enjoy.

— Bennett Falk

Bit By Bit: An Illustrated History Of Computers

By: Stan Augarten
Published by: Tickner and Fields, New York

If the computer world has an identity crisis, it is probably due to the fact that very few of us have been involved with computers long enough to remember the beginnings. I remember my first time on an IBM 360 terminal at a local junior college here in California. I was 11 years old and the fact that I could "talk" to that immense machine filled me with wonder and excitement as I began to work on what was then one of the most powerful computer systems in the world. That was over fifteen years, and many generations of computer technology, ago. My memories of those days of batch processing, timesharing, and all-nighters are beginning to fade now, and I wish I could remember more of the "good old days" of computing.

Luckily, Stan Augarten has produced a little gem of a volume called *Bit by Bit* which captures much of the history and flavor of those early times. From the Chinese abacus, through the early calculating engines of Babbage and Pascal, to the early ENIAC and SAGE computers of the forties and fifties, to the boy-wonders of today's Silicon Valley, *Bit by Bit* is a wonder to read and remember. Written much in the style of the now famous *Connections* book and PBS TV-series, *Bit by Bit* takes the reader on a journey down the pathways of numbers and information processing from the beginning of time to the present. Such important developments as the corporate beginnings of computer giants like IBC, Digital Equipment, Fairchild, and Apple Computer are covered, as well as the development of the transistor and the integrated circuit. In addition, the book explores many of the fascinating personalities that have made the computer revolution happen. *Bit by Bit* is lavishly illustrated with photos which clearly explain some of the most revolutionary developments in the history of technology.

Without question, *Bit by Bit* should be in the library of everyone even remotely involved with or interested in computers. With excellent coverage and very few omissions, it unfolds the history of what is one of man's most important inventions — the computer.

— John D. Gresham

EDUCATIONAL SOFTWARE

Charlie Brown's ABC's

Published by: Random House Software
For: Apple II+, IIe, IIc

Targeted for the age 3 to 7 crowd, *Charlie Brown's™ ABC's* offers a product that includes excellent animated graphics in which the whole Peanuts gang — Charlie Brown, Lucy, Snoopy, etc. — are used to help teach recognition of the ABC's. Constructed with the aid of the *Complete Graphics System II*, the Peanuts gang is presented in humorous full color graphic situations and scenes that illustrate items beginning with each letter of the alphabet.

Included with the program disk is a documentation booklet. This booklet completely describes the operation of the program, as well as description of "alternate activities." These alternate activities are offered to allow the user to utilize the program in a variety of "games" to increase the learning experience. Some of these activities include the use of a set of color printed "Activity Cards," a set of small letter/picture "flash cards" included with the program disk.

While reviewing the program in collaboration with a four-year-old, I noticed that two areas could be improved to offer a stronger package. First, the program requires the user to "request" each letter of the alphabet to be displayed. Second, the program displays both the upper case and the lower case letters on every display.

To begin the program, the user is requested to enter any letter (letters A through M are on one side of the disk, and N through Z are on the reverse side of the disk). Once entered, the initial display containing both the upper case and lower case letter is presented with an object that begins with the letter (i.e. a piano for P, a radio for R, etc.). After the initial graphic is presented with letters and object, the user then identifies the letter by pressing the key containing the letter. The screen then fills with an animated scene containing a Peanuts character using the object while a brief tune plays.

From this point the user must select a new letter for display (by pressing another key) and repeating the process. This process is continued throughout the entire alphabet. This mode of operation appears to be a bit too demanding for a 3 to 5-year-old age group, and would probably lead an unattended child to continually review the same letter (or group of letters) without trying others. (While it is possible to "step" from one letter to the next using the arrow keys, this mode of operation is not much better.) Other packages on the market, such as Springboard's *Early Games for Young Children*, offer a mode of operation where the program proceeds from letter to letter, in a random fashion, after the user correctly identifies the displayed letter. Combining *Charlie Brown's ABC's* animated graphics with an automated selection mode would provide a much stronger package.

As previously mentioned, each letter displayed is presented with both the upper case and lower case letters together. This is an acceptable mode of initial learning. However, when compared with other offerings on the market, such as Springboard products, the ability to present just the lower case letters on a display would greatly enhance the overall learning experience that the package could offer.

The program has both standard features seen on other products, such as the ability to toggle the sound off and on (nice when you don't want to disturb others in the room), and features that are pleasant but do not enhance the learning experience, such as the ability to enter the child's name permanently on the disk (the initial display then presents "This Disk Belongs to: Suzie"). The child's name is a nice touch but could cause problems in households with more than one child.

— John Boone

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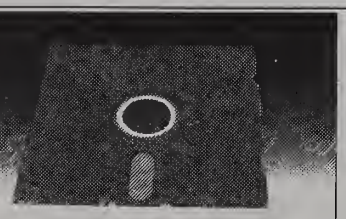

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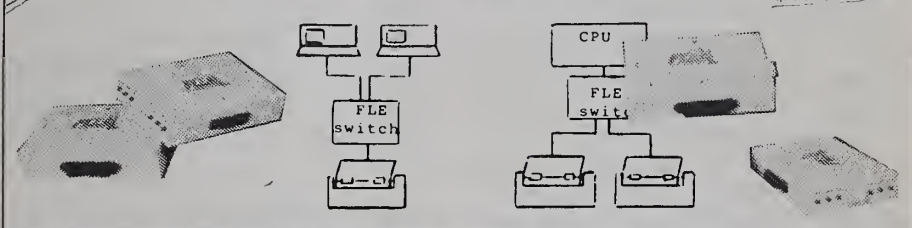

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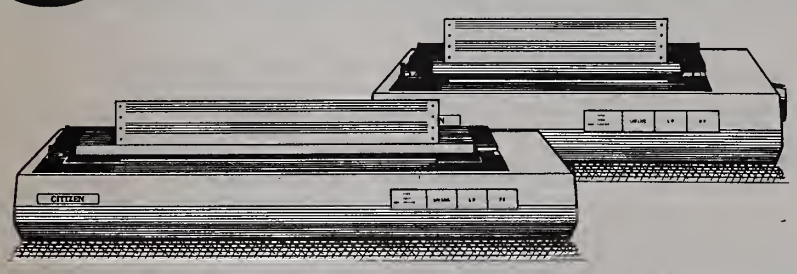

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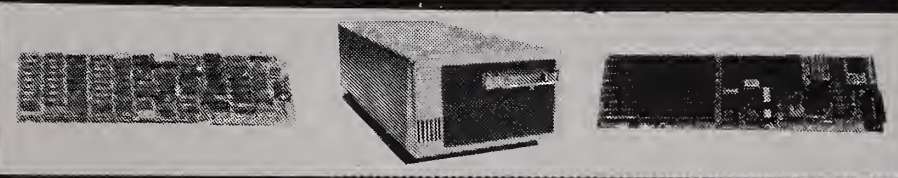

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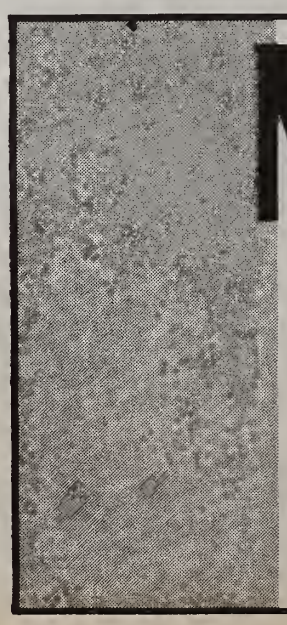

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USER GROUP NOTES By Mary Eisenhart

This month's winner of the Bizarre Telephone Conversation Survival Award is indisputably **Linda Kahn** of the **FORTH Interest Group**, who happened to call one morning as I was doing a fairly classic rendition of Out-To-Lunch Editorial Person. "Hi, I'm from the FORTH Interest Group, and I heard you have free user group listings," she said amiably. "Uh, yeah, that's true," I replied cautiously, "but just who's the Fourth Interest Group? I mean, I've heard of the Fifth Estate, the May 1st Coalition, the No On Prop 13 Group, but who are you?" Well, once we got that one straightened out and had a good laugh over the low intelligence manifested by editorial types these days, Linda agreed to send along listings of local groups for FORTH aficionados, which she duly did. You'll find them among the local listings; if there's none in your area, contact the central organization at P.O. Box 8231, San Jose, CA 95155, (408) 962-8653, or Linda herself at (213) 478-7398.

We received a correction from **Ted Shapin** of Orange on our listing for **Computer Professionals for Social Responsibility** in the LA area, which, based on conversations with various other CPSR members, seems to reflect the philosophy of the organization in general. "The LA chapter is interested in computer reliability and preventing nuclear war, the socially useful direction of computer research, and similar topics." If you're looking for a local chapter of CPSR or would like to receive more information about the organization, the national headquarters are in Palo Alto. Write to CPSR, P.O. Box 717, Palo Alto, CA 94301, or call (415) 322-3778 for information. (Ted also sent along a copious listing of user groups in Southern California, which was too gargantuan an undertaking to get into this issue but will be incorporated into the listings next issue. Many thanks.)

A very nice gentleman came by our booth at the Computer Faire and, after some general pleasantries, offered to send us all manner of useful information of interest to user groups. Which he did, but unfortunately he didn't sign his letter, so proper acknowledgement will have to be deferred until he leaves his name. Aside from several listings, he wishes to point out the formation of **PRACSA** (Public Remote Access Computer Standards Association) and its speakers bureau. If your user group is in the Bay Area and would like a speaker on topics ranging from "How To Start A Bulletin Board" to "Small Computers In Business" to "Do I Need A Computer?" to such esoterica as "What Are Z Nodes?," give these people a call at (408) 262-5150. If you're interested in becoming a speaker, call also. And if you're the *owner* of this phone number, please call and give me your name so we can dispense due thanks in print.

Jean Larson of **Bay Area Micro-Genealogists** writes to point out that the organization has affiliated with the **California Genealogical Society** and should henceforth be known as the **CGS Computer Interest Group**. CGS-CIG meets the second Saturday of *alternate* months in the Commission Room, 3rd Floor, San Francisco Public Library, at 3:15 pm. The purpose of the group is mutual aid and education for help in buying and using hardware and software for genealogy. So if you're interested in computer-assisted roots, attend the next meeting on May 11, or contact Jean at (415) 564-6946 (weekends and evenings).

Lion Goodman of Mill Valley reports good progress in forming a group of *Enable* users (notwithstanding the efforts of gremlins in the pasteup department who rendered the announcement of the group's formation just about unintelligible in the last issue). To recapitulate slightly, *Enable* is an integrated software package from The Software Group, and Lion's intention is "to create a group which can not only support us as users of the software but can also become a 'lobbying' force so that improvements in the software that we want will be implemented. The company has said that registered users will form such a committee, but I feel that an independent group of users in the field will have more impact." With the program's first update due soon, this is a chance to make your voice heard, so if you're an *Enable* user or just want more information, contact Lion at 38 Glen Drive, Mill Valley, CA 94941, or call (415) 383-2337. And if you don't know what *Enable* is or what it can do for you, see the review in this month's Business Software Reviews section,

Lisa Storrie-Lombardi of the **Lisa/Macintosh SIG** of Washington's **Apple Co-Op** sends along this month's *32 Little Apples* newsletter, which once again has many useful bits of information for the Mac user· tips on upgrades, hints for getting unexpected benefits from your equipment and software, new items of interest in the public domain, and open-ended questions and answers. Once again, this monthly publication is mailed to members of the A.P.P.L.E. Co-Op, 290 SW 43rd, Renton, WA 98055 (dues are $26/yr., with a one-time application fee of $25. For a short time, the Co-Op is running a first-time membership special of $49).

On the **Sanyo** front, it seems that a lot of people are out there forming user groups. **Kenneth E. Taylor** of San Mateo writes that there's a **Bay Area Chapter** of the **Sanyo National User's Group** forming for support of the MBC-55X series, and suggests that you call (415) 582-1667 or (415) 345-7781 for information. **Jim Thomas** also writes announcing the existence of the **Santa Clara Sanyo Users Group**, also for MBC-55X machine users. Call Jim at (415) 651-0201 for details of this group. But alas, things are somewhat less rosy in the life of **Chris Haun** of Hollywood. He sends our classifieds department the following distress signal: "Sanyo MBC-555 Alone In LA. Novice Sanyo Owner learning WordStar for screenwriting. Feel adrift in a stream of IBMs and Apples. Seek other Sanyo owners to learn with and from." If you have the inclination and the ability, take pity on Chris and give him a call at (213) 876-4353.

Last but not least, if you live in the Bay Area and are looking for a low-cost computerized telecommunication system, check out **The WELL**, from the **Whole Earth** folks in Sausalito. The WELL costs $8 per month, $2 per hour (billed to the user's MasterCard or VISA) plus a $1-per-hour access fee from Pacific Bell. Initial services will include electronic mail, computerized conferencing, and online "chat." The Whole Earth people warn that The WELL (short for Whole Earth 'Lectronic Link) is likely to go through some awkward stages in initial months, but the potential is great. "Users for the first several months should consider themselves pioneers — with the frustrations, frequent changes, and occasional excitement that go with that role. You'll be helping refine the system as you use it." If this sounds like your kind of adventure, call **Matthew McClure** or **Jim Stockford** at (415) 332-4335.

And finally, send me your listings, event announcements, or general remarks directed to the user-group community, and I'll pass them along: MicroTimes User Group Listings, 5951 Canning St., Oakland, CA 94609, attn. Mary Eisenhart.

Bad News From BBS-Land

Some MicroTimes readers may remember Steve Huntley, sysop of "Los Angeles Communication System," from our March article "BBS-Land." Huntley was notable for his support of first-time users, his generosity with advice, and his determination to keep his board free. "Charging money would defeat the reason I put the board up, which was to help people who are new at it," he told writer Jeff Spurrier at the time. "That's why I'm there, to promote it, to make people less afraid of it. Some of the public domain stuff is such a learning experience."

Unfortunately, as Spurrier reports after a recent conversation with Huntley, not all the bulletin board's users responded in the same spirit. On April 2, Huntley was working on the board when his wife called him to dinner. He went, and discovered upon his return that all user files had been erased — over 800 regular users.

As it turned out, the perpetrator was not hard to identify, since Huntley's computer automatically prints out everything that happens on the board. Identifying the culprit as a local 13-year-old, the recipient of a good deal of assistance from Huntley in the past, he telephoned the youthful hacker, who hung up on him. Huntley then sent a copy of the printout to the youth's father, who is reputed to have confiscated his son's modem.

Asked what may have prompted this act of sabotage, Huntley shrugged, "To be malicious. That's exactly it, he's trying to be a *War Games* kid."

Rumors notwithstanding, Huntley is neither closing the board nor starting to charge money for its use. "I can't punish everybody else because of one little jerk," he told Spurrier. The board is still operating at (213) 935-7570, and Huntley reports that since the debacle he's received over 600 calls from 300 new users.

— **ME**

BULLETIN BOARDS

NORTHERN CALIFORNIA

Kayfog RBBS & RCP/M (Fog System 11) (415) 285-2687; Free; special help for newcomers, Kaypro, Morrow, Osborne, and CP/M.

Napa Valley RBBS/RCP/M (707) 257-6502. Interests in Atari, Apple, Osborne, dBase II.

Bay Area Atari Users Group 24 hour BBS (408) 578-2390.

NCR BBS of Northern California Bulletin Board System for all users of NCR Microcomputers (Decision Mate V and PC-4). Learn more about NCR's microcomputers.

Ti-Comm BBS 8:30 pm to 6:00 am, 7 days a week. 300 baud. Multiple message bases, features, and ELIZA. (408) 926-4413.

The Bay PBBS 300/1200 Baud full duplex. 24 hrs., 20 megs online. Apple super-32 computer section, excellent Macintosh/Apple II downloads. (415) 775-2384. Easiest to get through in the mornings.

Ti BBS 300 baud, 24 hours. All systems welcome. Free. 4 message bases, large data base on various subjects. (415) 994-4877.

BAKUP (Bay Area Kay'pro Users and Programmers) (415) 223-2237 RBBS & RCP/M — Must be a member of BAKUP, P.O. Box 20181, Oakland, CA 94620.

NCR BBS of Northern California (408) 744-0556. Bulletin board for all users of NCR microcomputers (PC-4 and Decision Mate V). Learn more about NCR's microcomputers. Contact Lee Sherman or Jim Chandler, 756 San Aleso Ave., Sunnyvale, CA. (408) 743-4933.

SiMMS (Silicon Valley Interchange) 4000 files on line. New releases, communications, and utilities for CP/M based computers are available on a nonprofit public-domain, 24 hour remote CP/M system. The SiMMS (Silicon Multiple Message System) Network Headquarters runs on a CompuPro 816 with 40 megabyte hard-disk drive. The Modem number is (408) 732-9190. To register, send a six-digit password and $25 to SiMMS Headquarters, Silicon Valley Interchange RCP/M Registration, Box 532, Cupertino, CA 95015. Sysop: Ed Svoboda Jr.

MBL Referral System BBS A board dedicated to personal messages and advertising listings. Modem: (415) 444-6362; 6 pm - 6 am weekdays, 24 hours weekends. MBLRS BBS users meeting Saturdays, 5:30 pm, 1555 Lakeside Drive, Suite 23, Oakland. Call (415) 444-3033 for info, ask for Mel.

Entertainment Network. Features Top 10 Music charts, Top 5 books, videos, movies, computer software, video and movie reviews. Software dept. (10-80% off on Apple, Atari, Commodore & IBM), E-mail, upload, download, multiple message boards, new releases and much more. Sysop: Raaj Menon. (415) 471-3591.

ROOTS—BBS. Available 24 hours, 7 days a week, supports 300/1200 baud at 8/N/1. Specializes in genealogical info with messages, upload and download of CP/M, DOS, Apple software. Sysop: Brian Mavrogeorge. (415) 584-0697.

Vortex BBS. (916) 481-0194. 24 hours, 300 baud. Pamela Lunsford, sysop.

SOUTHERN CALIFORNIA

Gamenet Bulletin Board System. BBS is devoted 100% to gaming subjects. 24 hours, 20 boards, 10 D&D/RPG boards, Alkahest, professional book reviews. Unending Story, Adventurers' Training Ground, Game Hint, etc. Sysop: L.J. Phone: (213) 541-8039.

The Consultant's Exchange BBS Serving professional computer consultants and students since 1983 with the finest public domain software for the IBM-PC. Featuring consultants list and job list. (714) 842-6348 24 hours.

Thousand Oaks Technical (805) 493-1495. This massive 64 megabyte board has a mind-boggling number of downloadable programs. The board has no bulletin board feature and allows unlimited upload time. Download time is limited depending on upload exchange.

Granada Engineering Group RCP/M (818) 360-5053. Technical information, BBS lists, and help on CP/M assembly language program writing.

Aware II (213) 851-0780. Sports BBS with different discussion boards centered around USFL, baseball, etc.

Junkyard Data (213) 867-9541. Multi-interest board in Norwalk with everything from jokes and for sale items to reviews (movies & software), trivia questions, an adults only section, etc.

Marina Matchup (213) 397-6300. This Mar Vista-based dating board operates with Martian software.

Lynzie's Motherboard North Hollywood; multi-interest board with public boards, entertainers exchange, job exchange info. Runs on IBM-PC with 10 mb storage, operates on Martian Software, runs 24 hours a day. (818) 508-6482.

Bulletin Board System. BBS devoted to handicappers and racing fans in So. Cal. On line every weekend. Log-on: race data for Santa Anita, Hollywood Park and Del Mar. (213) 934-6026.

Videodrome BBS. Where computers and video meet. (213) 324-5882 from 12 pm-2 am. Open every day, 7 days a week. A Commodore 64 system.

ASSOCIATIONS

NORTHERN CALIFORNIA

California Software Electronic Consultants (CAL-SEC) California Software and Electronic Consultants Network. Support Groups — Workshops — Legal Referral — Newsletter. $30 Membership or SASE to CAL-SEC, 3046 College Ave. #4. Berkeley, CA 94705.

Community Entrepreneurs Organization (CEO) Business networking group meets around SF area. Invests in new products, markets, brainstorms. Share info. on tech and non-tech business issues. 4 meeting locations, various week nights. Contact Dr. Crandall, P.O. Box 2781, San Rafael, CA 94912. (415) 435-4461.

Computer Professionals For Social Responsibility P.O. Box 717, Palo Alto, CA 94301. (415) 322-3778.

Computer Professionals For Social Responsibility (EAST BAY) 902 Rose Ave., Piedmont, CA 94611. Contact Bruce Joffe, (415) 768-0288 days, (415) 654-5263 eves.

FOCUS-MED (Federation of Computer Users in Medicine). Open to all physicians and health professionals. Practice management consultant registry. (415) 626-4600.

FOCUS-DDS (Federation of Computer Users in Dentistry). Open to all dentists and dental professionals. Practice management consultant registry. (415) 626-4600.

NEW METHODS. Listings of Animal and Veterinary groups; book publishers; associations — all fields, manufacturers and related; animal professionals; others available upon request. Contact Ronald S. Lippert, AHT, P.O. Box 22605, San Francisco, CA 94122, (415) 664-3469.

San Bruno Computer Club. Meetings Wednesday 7:30 pm. Call Pete Testart, (415) 952-9309 for information.

PRACSA (Public Remote Access Computer Standards Association) offers to clubs, schools, and user groups a Speakers Bureau. The purpose of the bureau is to act as a resource to these groups in obtaining speakers of high quality for their meetings. The volunteer speaker is provided free to the group. Contact (408) 262-5150. Meetings 4th Wednesday, 7 pm, Vadic Cafeteria, 222 Caspian Dr., Sunnyvale.

SOUTHERN CALIFORNIA

Computer Professionals for Social Responsibility. The LA chapter is interested in computer reliability and preventing nuclear war, the socially useful direction of computer research, and similar topics. They meet the third Monday at 7:30 pm at the Nuclear Information Center, 1431 Ocean Ave., Suite B, Santa Monica. Phone (213) 747-3219 for more information.

The North Orange County Computer Club This group is the largest and perhaps the oldest in the county. It is affiliated with a large number of special interest groups and offers something for just about every user. General meetings are usually the first Sunday of every month in the Hashinger Auditorium, Chapman College, Orange. For info, call (714) 998-8080.

The South Orange County Computer Club A general computer club that meets the first Tuesday of every month at 3545 Harbor Blvd.,Costa Mesa. Meetings begin at 7:00 P.M.

USER GROUPS

NORTHERN CALIFORNIA

ADAM

California's Adam Users' Group. For a sample issue of the newsletter and a hardware-software catalog free, send your address to CAUG, 1643 Beach St., San Francisco, CA 94123.

APPLE

San Francisco Apple Core Meets every third Saturday of the month at Fort Mason, Bldg. C, Room 100 at 10 am. New products and innovations are featured for Apple II, Apple III, Macintosh and Lisa. Public domain library, SIGs, tech help, newsletter. $20 per year membership. Info: SF Apple Core, 1515 Sloat Blvd., Suite 2, San Francisco, CA 94132. (415) 566-2342 (voice), (415) 474-8608 (BBS/modem).

SPCA (Society For The Prevention of Cruelty To Apples) The Society for the Prevention of Cruelty to Apples is a club for owners of Apple, Apple-compatible (Franklin, etc.) and Macintosh personal computers. It meets at 7:30 pm on the last Wednesday of the month at Thornton Jr. High School, on Thornton Ave. at Dusterberry, in Fremont. Contact SPCA Publicity Chairman Milton Buck, 5246 Channel Drive, Newark, or call (415) 794-2822 for more info.

Association of Apple 32 Users Macintosh, Lisa. An association of "knowledge workers" who wish to share information on products, applications, and events. User-developed, non-copyrighted software, SIGS, newsletter. P.O. Box 634, Santa Clara, CA 95052.

Apple Eaters UG. Enthusiastic new Hayward-based user group. We have teachers, bulletin board fanatics, and machine langauge user sub-group. Contact Paul Stryker, (415) 782-9250. Meetings at 22406 Foothill Dr., Hayward, CA 94541, 1st Thursday of the month.

Pen Apple. Pen Apple Users Group meets 2nd Thursday of each month at AMPEX cafeteria, 7:30 pm, Redwood City. Draco Bulletin Board. Contact Karl Shores (415) 366-0339.

ASHTON-TATE

Framework/Editor Bay Area Users Group (FREDBUG) Purpose of the group is to share programming and applications techniques under FRAMEWORK for the business and technical professional. Call for info: Rudi Wiedemann, (408) 730-4159.

San Francisco dBase User Group For advanced users and programmers. Meets once per month. Membership required for attendance. Contact Frank A. De Coster, 1100 Gough St., San Francisco, CA 94109, (415) 474-6693.

dBase Users Group. Meets 2nd Tuesday each month at Softwaire Center, 1975 Diamond Blvd. #C220, Concord (Willows Shopping Center), 7:30-9 pm. Contact Cyndy Kolnick (415) 235-7317 for information.

ATARI

ABACUS (Atari Bay Area Computer Users Society) All ATARI users or prospective users are welcome. Membership ($15/year) provides public domain software, low cost blank disks, monthly newsletter, group prices on hardware and software, help from experts, low cost classes for beginners. Meetings first Saturday of the month, Fort Mason, SF, Room 300, Bldg. C, 10 am-2 pm. Contact Bill Zinn, P.O. Box 1823, Mill Valley, CA 94941. (415)

USER GROUP NOTES

753-8483.

A.C.M.E. (Atari Computer — Marin Enthusiasts) Meets monthly in Marin, third Thursday evening monthly from 7 pm on. Gallinas School, 177 N. San Pedro Rd., San Rafael. Contact Bruce Frank, (415) 435-6020, P.O. Box 222, Tiburon, CA 94920.

Diablo Valley Atari Computer Enthusiasts (D.A.C.E.) Contact Richard C. Foster, Secretary, 3760 Lindero Drive, Concord, CA 94519.

Bay Area Atari Users Group We have a 24-hour BBS at (408) 578-2390. Meetings at Dysan Auditorium, 4201 Patrick Henry Drive, Santa Clara, CA 95050, first Monday of the month. Contact Frank Nagle, P.O. Box 50459, Palo Alto, CA 94303, (415) 940-1323 for more info.

San Leandro Computer Club Although open to all computer users, this group is primarily oriented to Atari computer owners. Our club is considered one of the best in the country, worthy of consideration by both novices and experts. Meetings 1st Tuesday of the month at San Leandro Community Library, 300 Estudillo Ave., San Leandro, CA. Contact Phil Mitchell, P.O. Box 1525, San Leandro, CA 94577-0152 for more info, or call (415) 351-2208.

ATTACHE

Attache UNL Otrona may be dead, but the Attache Users News Letter Lives ON!! Contact Jim Ayers, 301 Poplar St., Mill Valley, CA 94941. (415) 388-4805. Meetings 7:30 pm, 2nd Wednesday.

BASIS

Bay BUG Basis 108 Users meet every first Friday of the month at College of Alameda Computer Room, 7:30 pm. Contact Roger Bernhardt, 536 Mission, San Francisco or call (415) 221-0262 for more information.

COMMODORE

San Francisco Commodore Users Group Public domain library, classes, tech help, in depth demonstrations, monthly newsletters, Epromer, savings on purchases, all this and more. BBS # (415) 567-5046 300 baud. Meeting address 256 Laguna Honda Blvd., San Francisco, 3rd Tuesday of the month, 7:30 pm. Contact Roger Tierce, 278 27th Ave. # 102, SF, CA 94121, (415) 387-0225.

20/64 Computer Users Group — San Jose Meets first Sunday of the month at the Theatre Building, San Jose City College, from 6 to 9 pm. (Donations requested to help defray cost of renting meeting space.) Call Herb Miller, (408) 253-2064 for more info, or write P.O. Box 18473, San Jose 95158.

20/64 Computer Users Group — San Jose North Valley Meets second Saturday of the month at the second floor Community Room of Montgomery Ward's, Capitol and McKee Roads, San Jose, from 10 am to noon. (408) 253-2064.

20/64 Club The Cupertino chapter of the 20/64 club for Commodore users meets the second Sunday of each month, Cupertino Public Library, 6 pm. Contact Rex Ackerman, P.O. Box 61063, Sunnyvale, CA 94086. Phone (408) 245-7270.

20/64 Computer Users Group — Campbell Meets the fourth Tuesday of the month at the Campbell Public Library, 70 North Central Avenue, Campbell, from 6:30 to 9:30 pm. (408) 253-2064.

20/64 Computer Users Group — Gilroy Meets the second Wednesday of the month at the Gilroy Public Library, 7397 Rosana Street, Gilroy, from 7 to 9 pm. (408) 253-2064.

Diablo Valley Commodore Users Group Meetings Contra Costa Water District Auditorium, 1331 Concord Ave., Concord, CA, second Thursday of month at 7:30 pm. Write DVCUG, P.O. Box 27155, Concord, CA 94527, or call (415) 838-2838 for more info.

Napa Valley Commodore Computer Club Meets first and third Mondays, 7:30 pm, at Northwood Elementary School, 2214 Berk St., Napa. Take Redwood Road to Dover St. to Berk St. Contact President Dick Bull (707) 257-3773 or vice-president Roger Pruym (707) 253-1690 for more info.

Lake County Commodore Users Group Contact Al Reuss, P.O. Box 388, Clearlake, CA 95422.

Marin Commodore Club Meets at Redwood High School, Corte Madera. Visitors welcome. Contact Elmer Johnson for information: 665 Las Colindas, San Rafael, (415) 479-0426.

PUG of the Silicon Valley Commodore 64 (PETs, 8032s, 2001s also). Friendly computer group established back in 1977 with a very extensive disk library. No dues, donations only. Bring your machines to the meeting or use club dual disk drive to copy programs. Meets at cafeteria, Ford Aerospace Bldg. #3, 3939 Fabian Way, Palo Alto, CA 94303, 1st Wednesdays of the month, 7-10 pm. Contact Marvin Vander Kooi, (408) 446-1936.

Peninsula Commodore User Group Public domain library, demonstrations, user help, newsletter. Membership is $25 per year. Non-members pay $2 at door. Meetings are 3rd Tuesday of each month. Meeting place is the Church of the Good Shepherd Hall, 1300 5th Ave., Belmont (across from city hall). For more info call (415) 595-5452 between 9 am and 6 pm, or call our BBS at the same number after 6 pm.

CROMEMCO

Silicon Valley Cromemco Users Meets 4th Tuesday of the month at MCM Enterprises. 215 Hamilton Avenue, Palo Alto, CA. Call Ken Brown at (415) 327-8080 for details.

EAGLE

Eagle Computer Users Group (ECUG) Forum for exchange of info and ideas relating to Eagle Computers. Meetings and classes in WP, Data Base, Modems, CP/M, MS/DOS, etc. Meetings at Mercury Savings and Loan, 859 Blossom Hill Road, San Jose, fourth Monday of the month, 7 - 9 pm. Contact David Meisman, P.O. Box 8431, San Jose, CA 95155, (408) 973-1254/973-1460.

Screaming Eagles user group is for Eagle II (8-bit) machines and programs. Public domain disks, newsletter (quarterly, $5), hardware and software discounts, tech help and SIGs. CompuServe PCS-54 anytime; contact Leslie Lieurance, 101m Parnassus #1, San Francisco, CA 94117 (415) 661-4362 (voice).

ENABLE

ENABLE Users Group Now forming. Contact Lion Goodman, 38 Glen Dr., Mill Valley, CA 94941. (415) 383-2337.

EPSON

Bay Area Epson Salts — Epson 125 Del Centro, Millbrae, CA 94030, (415) 697-0567.

Epson Users of San Francisco Bay Area Epson group has nationally circulated newsletter *Valnews*: 400 members — mostly QX-10 owners, growing software library. Meetings focus on mutual support. Mainly Valdocs and other applications. Meetings first Thursdays. 7 p.m. Fort Mason Center, Bldg. C, Room 205, San Francisco. Contact Alan Magary, 904 Irving St., Suite 271, San Francisco CA 94122, (415) 661-9270.

Napa Valley Epson Users Group 1307 Hestia Way, Napa, CA 94558, (707) 253-8727.

FORTH

FORTH Interest Group, Berkeley Chapter. Meets 2nd Saturday of the month at 1 pm, 10 Evans Hall, UC Berkeley. Contact Mike Perry, (415) 644-3421.

FORTH Interest Group, Monterey/ Salinas Chapter. Contact Bud Devins, (408) 633-3253.

FORTH Interest Group, Sacramento Chapter. Meets 2nd Tuesday of the month, 7 pm, 170B 59th St., Room C. Contact Tom Ghormley (916) 444-7775.

FORTH Interest Group, Bay Area Chapter. Meets 4th Saturday of the month, 10 am advanced, 1 pm beginning, at ABC Christian School Auditorium, Dartmouth and San Carlos Ave., San Carlos (408) 277-0668.

FORTH Interest Group, Stockton chapter. Contact Doug Dillon (209) 931-2448.

GAVILAN

Gavilan Users Group. BBS (408) 978-DATA 300/1200. Meeting 2nd Thursday 7:30 pm, 10250 De Anza Blvd., Cupertino. Info call Bob Brown (408) 379-2774.

HEATHKIT

San Jose Heathkit Users Group. Meets first Wednesday at 7 pm at the Heathkit store on South Bascom Ave. in Campbell.

IBM

San Francisco PC Users Group Largest SF group focusing on IBM and compatibles. Over 150 disks of public domain software, excellent monthly newsletter. 800+ members, $25/year. Please contact Rick Alber, 3853 18th St., SF 94114. (415) 864-5141.

South County PC Users Group Meetings held second Thursday of each month, at Software Center, 22406 Foothill Blvd., Hayward, CA. Public Domain club disks, newsletter and help on MS-DOS problems. Contact Debra Taylor, P.O. Box 7656, Fremont CA 94537-7656 for more info, or call (415) 276-5111.

Sacramento IBM-PC Users Group. P.O. Box 685, Citrus Heights, CA 95610. Contact George W. Lefler (916) 988-2274.

SVCS (Silicon Valley Computer Society). IBM users group. Meets second Wednesday at 7 pm at the Westinghouse auditorium located on the corner of Duane and Britton Aves., in Sunnyvale.

KAYPRO

Santa Rosa KUG Owners of Kaypro computers or CP/M systems are invited to join the SRKUG. We conduct seminars and software instruction/training. Come join the fun. Meetings 3rd Thursdays of the month at 7 pm. Call for meeting address: James Daniels, 1029 Damon Court. Santa Rosa, CA 95401. (707) 575-8149.

BAKUP (Bay Area Kaypro Users and Programmers). One of largest Kaypro user groups in country. Meets 3rd Tuesday of month, 7:30 pm. We support our RBBS/RCPM for members, publish a monthly newsletter, have a 40 volume software library, and a lot of fellow KP'ers! Write for info, $10 per year to join: Membership Coordinator, P.O. Box 20181, Oakland, CA 94620.

KAYFUN Peninsula Kaypro Users Group meets second Thursday of every month at 7:30 pm in the ground floor social room, 222 Laurel St., San Carlos. Bimonthly newsletter, public domain software library, and publication library. Membership $12 per year. Every third meeting a Free Forum night dedicated to individual help. Contact Larry Welling, 222 Laurel St. #310, San Carlos, CA 94070, (415) 593-9981.

MACINTOSH

EBMUG (East Bay Macintosh User's Group) Friendly, informal. Public domain software and computer book library. Information exchange. Speakers. Product discounts. Free admission. Meets at El Cerrito Public Library, 6510 Stockton. El Cerrito, CA. third Tuesday of each month at 7:30 pm. Contact Shep Tamler, 5901 Broadway #7, Oakland, CA 94618. (415) 653-5849.

Bay Area MacForum New and experienced Macintosh users. 2 monthly meetings: one immediately following San Francisco Apple Core meeting at Fort Mason, Building C, Room 300, San Francisco, 3rd Saturday of the month; one at Software Center, The Willows Shopping Center in Concord, second Monday of the month, 7 pm - 9 pm. For info: 1515 Sloat Blvd. #2, San Francisco, CA 94132, (415) 566-2342

Berkeley Macintosh Users Group meets every Thursday evening at 5:30 pm on the UC Berkeley campus, in Physical Sciences Lecture Hall (near East Gate). Speakers, discussions, questions and answers. Developer SIG meets every other Wednesday at 5:30 pm on UCB campus in Dwinelle Hall lobby. For more info contact Reese Jones, Director, 1442A Walnut St., Suite #153, Berkeley, CA 94709 or call (415) 849-9114.

MacNexus. Sacramento's Macintosh User Group. 150 members, but still informal. Extensive public domain collection. Contact Gail McGovern, P.O. Box 60908, Sacramento, CA 95860, (916) 446-2411. Meetings 3rd Thursdays, 6:30 pm, Almond Plaza, 17th & C, Sacramento.

MICRO DECISION

BAMDUA (Bay Area Micro Decision Users Association). Meets on last Tuesday of the month, 7:30 pm. Call (415) 644-2805 for location. Monthly newsletter.

MINDSET

First Mindset Users Group The only users group for Mindset computer owners and users. Monthly meetings cover advanced microcomputer graphics and more. Meeting at Graphic Reproduction, 181 Mission Street, SF, March 18. Call David Duberman (415) 668-8352 for more info, or write him at 355 15th Avenue #5, San Francisco.

NORTHSTAR

INSUA Largest North Star users group in the world. Members' newsletter and software library. Membership dues $20. Contact George Riddle, P.O. Box 2910, Fairfield, CA 94533.

OSBORNE

East Bay FOG (First Osborne Group) Osborne, Kaypro and Morrow. Meets second Wednesday of the month at B&B Electric, 2832 Ford Street, Oakland. 6 pm workshops, 7:30 pm program. For info contact A Central Place, 477 15th St., Room 200. Oakland, CA 94612. (415) 834-7897.

SMOG3 Osborne User Group (Peninsula) Meets first and second Monday of every month at Crane Place, 1331 Crane, Menlo Park. Call Phil Moore at (415) 325-2442.

MTDOG (Mt. Diablo Chapter—First Osborne Group) Meetings 7 pm, 3rd Wednesday each month in Diablo Room (top floor), SF Federal Savings and Loan, 1660 Olympic Blvd. (cross-street: California), Walnut Creek. Software library, software/hardware/service demonstrations, sharing problems and solutions. For meeting info contact Sylvia Tobias, (415) 376-4720.

USER GROUP NOTES

PICONET

Piconet CP/M Users Group. Meets second Thursday at 7 pm at the Stanford Linear Accelerator Auditorium, Palo Alto. The password at the gate is "Piconet Meeting."

PIED PIPER

Pied Piper Users Group Owners of Pied Piper CP/M based computer are invited to call or attend the PPUG. Meets last Tuesday of the month at 7:30 pm. Please call (415) 638-1146. Meeting address: 10950 Elvessa St., Oakland 94605.

R2E

North Bay R2E Forming user group for R2E System microcomputer users. Please call (415) 235-1598 for information.

RADIO SHACK/TRS

Byte Bandits of America TRS-80's workshop computers club — bimonthly meetings — 2nd Saturday and 4th Wednesday of the month. Bring your computers. Free membership. Modem (408) 374-3974. Meetings at 780 Many Ave., Campbell, CA. For info contact R.W. Brown, (408) 379-2774.

TRS-80 Computer Society of Diablo Valley The purpose of this group is the sharing of information, problem solving, support group, purchasing discounts, support for professional, business and educational users of Radio Shack computers. Out-of-area members welcome. Meetings second Tuesdays of the month, Willow Creek Center, 1026 Mohr Lane, Concord, 7:30-9:30 pm. Doors open at 7. Contact Roy or Sue Copeland, P.O. Box 23438, Pleasant Hill, CA 94523, (415) 372-7003.

MCTUG (Marin County TRS-80 Users Group). Meets once a month on the second Monday. Meetings start promptly at 7:30 pm in the Larkspur Masonic Lodge, 1122 Magnolia Avenue, Larkspur. For information contact Frank Hovell (707) 762-5740 or Lois Johnstad (415) 453-5412.

SAMNA Word

SAMNA Word III San Francisco or East Bay telephone network forming to discuss glitches, ideas, and interface hassles. Contact Shanti Pederson, (415) 982-8898.

SANYO

Sanyo 1100/1200 User Group of the San Francisco Bay Area. P.O. Box 297, San Mateo, 8-10 pm, every 2nd Friday of month. Send large self-addressed stamped envelope for copy of newsletter.

Sanyo MBC 1100-1150 user group now forming in Oakland. Call or write (415) 534-1981, 5885 Bancroft Ave., Oakland 94605 for meeting time and location.

Sanyo User Group of the San Francisco Bay Area meets 2nd Friday of the month at Sears Savings Bank, 1820 S. Grant, San Mateo, 8 - 10 pm. Devoted to Sanyo 8-bit CP/M machines: MBC 1000, 1100, 1200 series. For info write 1260 Westwood St., Redwood City, CA 94061.

Sanyo. Bay Area Chapter of the Sanyo National User's Group is now forming for support of Sanyo MBC-55X Series. Call now and participate in the forming of this new user-oriented support group. (415) 582-1667 or (415) 345-7781.

Santa Clara Sanyo Users Group. SCSUG's 24 hour BBS (415) 659-9169. Support for MBC-55X Systems. Meetings at 1 West Campbell Ave. #80, Campbell, 7-10 pm every 3rd Wednesday of the month. Contact Jim Thomas, (415) 651-0201 for info.

TEXAS INSTRUMENTS

San Francisco 99ers One General Meeting per month plus uncountable mini-meetings for training. Over 500 programs available in library. Meetings second Tuesday of the month, 6:30 pm. Texas Instruments Learning Center, SF. Contact Dick Altman, 1053 Shrader St., San Francisco. (415) 661-1994.

South Bay T.I. User Group. One general meeting per month. We have training session, library and own bulletin board (408) 578-6264. Meets first Thursday of each month at 7:00 pm, 1368 N. 4th St., San Jose. Contact Fred Roettger, v.p., for info: (408) 253-3510.

TIMEX/SINCLAIR

East Bay Timex/Sinclair User Group (EBZUG) Timex/Sinclair user group. S/W library and newsletter. Meets at West Branch of Berkeley Public Library at corner of University and San Pablo. Meets 3rd Tuesday of the month at 7:30 pm. Contact Rick Link. 654 40th St., Richmond, CA 94805. (415) 234-3310.

Peninsula Timex/Sinclair User Group (PUG) Timex/Sinclair user group. S/W library and newsletter. Meets at Peninsula Hospital, 1783 El Camino, Burlingame. Meets 3rd Sunday of the month at 1 pm. Contact George Mockridge, 263 Gateway #107, Pacifica, CA 94044. (415) 359-3198.

Silicon Valley Timex/Sinclair User Group (SVTSUG) Timex/Sinclair user group. S/W library and newsletter. Meets at Dysan Corp., 5201 Patrick Henry Drive, Santa Clara. Meets last Tuesday of the month at 7 pm. Contact Rita Carr, P.O. Box 4133, Santa Clara, CA 94044-0133. (408) 738-2888 ext. 45.

UNIX

The Unix C-Club Seminars, public domain softwares, information exchange, Unix hardwares and softwares. Discount on purchases. Meets 2nd Saturday of each month at 10 am. Call Gilbert B. Dalit at (415) 348-6723 or (408) 238-5587 for more information, or write: 122 2nd Ave., Suite 214, San mateo, CA 94401.

VECTOR

Bay Area Vector Group Meeting held regularly. Please call to be put on mailing list. You will be informed of next meeting! Contact Peter Tjeerdsma, 764 Cole St. #4, San Francisco, CA 94117. Phone (415) 681-0308.

VICTOR

Victor* Group is the San Francisco Bay Area Victor User's Group. We have three chapters — East Bay, South Bay, and San Francisco. Members can attend meetings at any of the chapters or all of them. The more the merrier. Dues are $30 a year, which includes a subscription to VictorTalk, membership in a Victor-exclusive discount buying cooperative, and the right to buy from our public domain library at a discount. South Bay meetings are held the first Thursday of each month at computer Insights, 40957 Grimmer Blvd., Fremont at 7:30 pm. Contact John Kimber (415) 797-6423. East Bay meetings are held the second Wednesday of the month at 7:30 pm; contact Boardman Moore (415) 283-3285 for location and further info. San Francisco meetings are held the third Sunday of the month at 5 pm at Homestead Savings, 130 West Portal, San Francisco. Contact Joe Zmuda, (415) 584-4048.

San Francisco Victor* Group The San Francisco Victor* Group meets at 4 pm the third Sunday of each month at La Bettola di Adolph Restaurant, corner of Broadway and Montgomery. Come early for public domain copying. Contact Darrell Bross, 254 Winding Way, San Francisco, CA 94112, (415) 586-5788.

SOUTHERN CALIFORNIA

ALTOS

Altos User group forming in West LA area. Contact Margaret Beemer, History Department, UCLA, Los Angeles, CA 90024.

APPLE

The Orange Apple Group All Apple owners are invited. Members are knowledgeable on many usages of all types of Apple machines. Meetings are on the first Saturday of every month from 9:00 to 12:00 a.m. For info, call (714) 897-8943.

South Bay Apple III User Group The Apple III is alive and well in Southern California. Come join us on the IIIrd Tuesday of each month. Product demos and discussions and more. Meeting address 1000 Victoria Avenue, Room #SC-E157, Carson, 7:30 pm, IIIrd Tuesday. Contact Gary, P.O. Box 432, Redondo Beach, CA 90277, (213) 316-7738.

Pasadena Apple Users Group (PAUG) Meets at Century Federal Savings, 199 North Lake Avenue, Pasadena, CA (corner of Lake and Walnut). Enter from the parking lot side. Take the elevator to the basement. The bank unlocks the doors at about 7:15 pm and the meeting starts at 7:30. No dues, new members welcome.

Wabash Apple Users Group Product demos of software and peripherals, discussions, help from experts. Public domain library. Meets twice a month at the Burbank Public Library, 110 N. Glenoaks Blvd., Burbank. Some months there are *no* meetings, so call Marie Kaden for information: (818) 846-6682.

AT&T

AT&T 6300 West LA: AT&T 6300 or 8086 compatible (desk pro) group forming. Contact Miles Hillis, (213) 472-3522, leave name and interest.

ATARI

Atari Computer Association of Orange County (ACAOC). Join one of the biggest Atari user groups in Southern California. Monthly magazine, large public domain library, and BBS privileges for members. Dues $24.00/yr., $18.00 for non-attending out-of-town members. Meetings at Golden West College, Room 123, Huntington Beach, CA 92647, 4th Sunday of each month, 1-5 pm. BBS: (714) 731-6523.

West LA Atari Users Group. Come join fellow Atarians! Dues are $20.00/year. Newsletter, P/D library, ATR-Sig, discounts, guest speakers. Please call for directions to meeting room! If you're reading this, you belong with us. Meetings first Wednesday of the month, 7 pm, Paul Revere Jr. H.S., 1450 Allenford Dr., Brentwood. Call John Scheid, pres., for more information (213) 829-7239.

COMMODORE

Club 64 National user group. Monthly newsletter, BBS, group purchasing, public domain software, much more. Contact: Robert Johnson, (213) 925-4049.

San Diego Commodore Users Group Meets third Tuesday, 7-10 pm, at VFW Bldg., 19th and Broadway, San Diego. Contact Jane Campbell, (619) 277-7214 (between 5 and 9 pm) for more information, or write: P.O. Box 86531, San Diego, CA 92138-6531.

San Fernando Valley Commodore Users Group Meets second Wednesday of the month at Patrick Henry Junior High on Louise Ave. between Devonshire and San Jose in Granada Hills, near 118/405 freeway interchange. Contact Tom Lynch, 21208 Nashville, Chatsworth, CA 91311, (818) 709-4736.

San Luis Obispo Commodore Computer Club 1766 9th St., Los Osos, CA 93402. (805) 528-7475 BBS.

The Commodore Users Group - San Juan Capistrano This group of C64 users meets the second Saturday of every month from 9:00 am till 12:00 at Great American Federal Savings and Loan, 32232 Camino Capo, San Juan Capistrano. For info call 496-5745.

The Commodore Technical Users Group This club is for more advanced C64 users. They meet on the fourth Sunday of every month at Mercury Savings and Loan, 1095 Irvine Blvd., Tustin. Meetings start at 11:00 am.

Hollywood User Group (H.U.G.) for Commodore 64 meets the first Saturday of every month at 6253 Hollywood Blvd., northeast corner of Hollywood/Vine, in the Equitable Building, Room 1219 at 12 noon. Contact: Martin Blackwell, 733 N. Ridgewood Place, L.A., CA 90038/(213) 463-8973. Beginners welcome!

EPSON

Cursor Club — Epson 402 W. Arrow Highway, Suite 6, San Dimas, CA 91773. (714) 559-8361, Bulletin Board: (714) 592-6316.

Foothill Epson User Group. We meet the fourth Tuesday of every month at Sparr Heights Community Bldg., 3311 Downing St., Glendale, CA, 7:30-9:30 pm. All are invited, speakers, questions, products, public domain disks, etc. Contact Gerald Jamriska, 2960 Hawkridge, La Crescenta, CA 91214, (818) 248-7133 for more info.

Epson Users Group of Orange County 6075 Jeffrey Mark Street, Cypress, CA 90630, (213) 414-4817.

Epson Users of San Diego P.O. Box 87448, San Diego, CA 92138, (619) 560-7604.

High Desert Epson Users Group 933 Cottonwood Drive, Barstow, CA 92311, (619) 256-3541.

PSC/QX 2934 Wilshire Blvd., Santa Monica, CA 90403, (213) 453-4535, Bulletin Board: (213) 474-4952.

South Bay Epson Users Group 1115 Cerise Avenue, Torrance, CA 90503, (213) 328-9916, Bulletin Board: (213) 618-1940.

FORTH

FORTH Interest Group, Los Angeles Chapter. Meets 4th Saturday, 10 am, Hawthorne Public Library, 12700 S. Grevillea, Hawthorne. Contact Phil Wasson (213) 649-1428.

FORTH Interest Group, Orange County Chapter. Meets 1st and 4th Wednesdays, 7 pm. Call Noshir Jesung for info. (714) 842-3032.

FORTH Interest Group, San Diego Chapter. Meets weekly, Thurs., 12 noon, contact Guy Kelly (619) 268-3100 ext. 4784.

FUJITSU

Want User's Group Info Have Fujitsu Micro 16, am looking for a user's group or BBS. Contact Greg Lucido, 5199 E. Pacific Coast Highway, Long Beach, CA 90804.

USER GROUP NOTES

HEWLETT-PACKARD

Club of Hewlett-Packard Hand-Held Users (CHHU) The true personal computer is small enough to always be conveniently with the user. CHHU, pronounced "chew," is dedicated to the ultimate personal computer. Membership is $30/yr. You will receive 10 issues of the CHHU Chronicle. Meetings are announced in the CHHU Chronicle, or contact Richard J. Nelson. 2545 W. Camden Ave., Santa Ana. CA 92704. (714) 754-7757.

IBM

The North Orange County IBM PC Users Group These people are interested in helping any PC users. They meet the second Tuesday of each month at the Sunny Hills Racquet Club in Fullerton at 7:30.

The Greater South Bay IBM PC Users Association Any L.A. area PC or compatible owners are welcome to attend these meetings at the TRW cafeteria on Compton Blvd. Meeting time is 7:00 pm on the third Tuesday of each month. For info call (213) 325-7533.

The Claremont Computer Club This club is for any interested IBM PC users. Meeting starts at 7:30 on the third Monday at the Galileo Edwards Bldg. on the Harvey Mudd Campus. For info call (714) 626-2286.

LISA

The Lisa Club of Los Angeles This is a brand new club just forming for Lisa owners. Meetings are scheduled to be the first Monday of each month. They have no permanent meeting place as of yet, but for information call (213) 852-4994.

MACINTOSH

Los Angeles Macintosh Group (LAMB) Membership fee is $25/yr or $15/yr for students. Membership includes 12 issues of MACDIGEST newsletter, access to public domain library, BBS, discounts at local stores. Meetings at Madison Elementary School, 11th and Arizona Ave., Santa Monica, 2nd Thursday of the month. Contact J. Baram, (213) 392-5697 for information.

MAC-Hollywood (Hollywood Macintosh SIG) meets once monthly on varying weeknights at 7:30 pm. Contact Ron Bastone, (213) 462-2860. Meetings at 1756 N, Garfield Pl., Hollywood, CA.

Ventura County Macintosh Club Mac and Lisa users invited. Membership $21/yr.; newsletter, software library, discussions and ideas. P.O. Box 7754, Oxnard, CA 93031, (805) 983-1610, (805) 499-2824.

NEC

Orange County NEC Users Group (OCNUG) Dedicated to NEC-APC computers, CP/M-86 & MS-DOS. Always room for any experience level. Meets 3 pm, third Saturday of the month. 6642 Lenore, Garden Grove. CA 92645. Call John Bingel at (714) 897-7656 for more info.

OSBORNE

Osborne National Users Group. Anyone interested in CP/M computer systems is welcome. Free admission. Speakers, questions and answers. Join our group for $10.00 yr. and copy public domain software from library. Meetings at 20630 Lassen St., Chatsworth, 2nd Friday of the month, 7:00 pm. Contact Alicia Fahey, P.O. Box 424, Northridge, CA 91328, or call (818) 709-6202 for more info.

RADIO SHACK/TRS

South Bay Color Computer Club TRS-80, TDP-100, Dragon. Meets third Friday of the month at Mercury Savings, 22939 Hawthorne Blvd., Torrance. Info: Andrew Corlett, 1435 W. 172nd St., Gardena, CA 90247. (213) 538-8394.

The Orange County TRS-80 Group This club is for all TRS users from beginning to expert. Meetings take place the third Sunday of every month at Chapman College, 1:30 pm. For info call 638-7889 after 7:00 pm.

SANYO

Sanyo-MS/DOS Table Top Computers, 14717 South Prairie Ave., Lawndale, CA 90260. (213) 679-1151.

TEXAS INSTRUMENTS

LA 99er Computer Club TI 99/4A support, classes and SIGs, large software library, monthly newsletter. Demonstrations, bulk purchase discounts on hardware, software and books. A good group to join. Meetings at Torrance Public Library, 3031 Torrance Blvd., Torrance, CA. 4th Wednesday of the month, 7 pm. Contact Terrie Masters, 148 S. Maple Drive, Beverly Hills, CA 90212, (213) 271-6930.

The TI-99 Club Yes, there still are a lot of 99's and 99/4a's around. If you own one, then get in touch with these people. They have good info for TI owners. Meetings take place at the Westminster Community Center on the third Thursday of every month at 7:00 pm. For info, call (714) 842-0859.

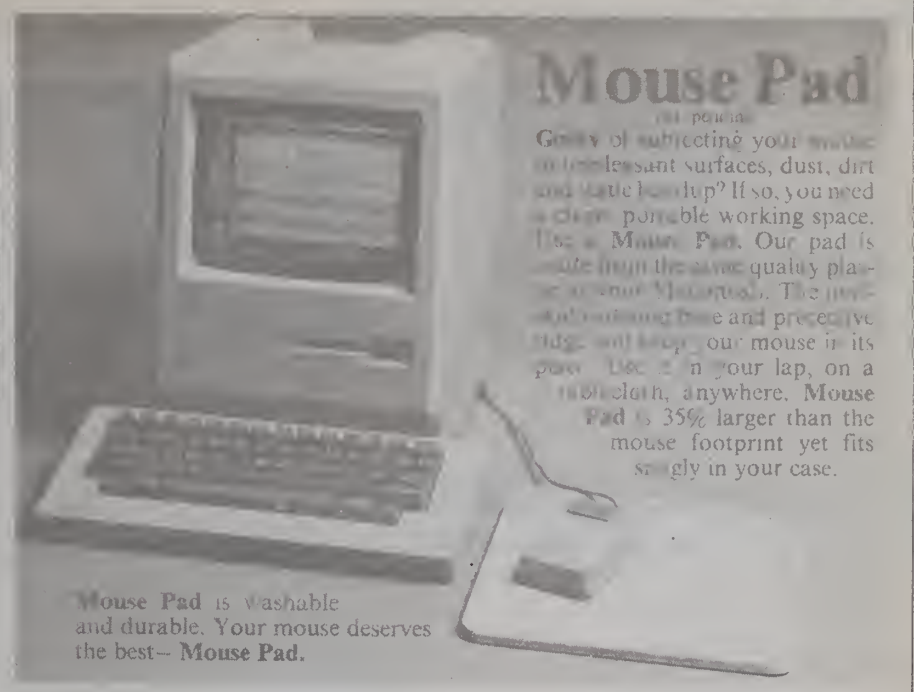
West Side TI Texas Instruments support group forming, users only, to map, trade, barter and exchange ideas, knowledge, and PD software. Meetings 3rd Tuesday of the month. Contact Fred L. Russo for information: 2021 Ocean Ave. #126, Santa Monica, CA 90405, (213) 392-3217.

NATIONAL/INTERNATIONAL

TPUG
World's largest Commodore Users Group. $25 annual membership entitles you to access to library of public domain software for C-64, VIC 20, PET, CBM, SuperPET, B-128. Coming soon — Plus 4, C-16, C-128. New disks added each month. Also TPUG Magazine (10 per year), free access to TPUG's Bulletin Board Modem System, 24 hours, 7 days. TPUG Inc., 1912A Avenue Rd., Suite 1, Toronto, Canada M5M4A1.

Apple Co-op 290 SW 43rd, Renton, WA 98055. (201) 251-5222.

JUG (Jefferson State Computer Users Group). Many SIGs, newsletter. Dues $5.00 year, some SIGs additional. Contact JUG, P.O. Box 457, Gold Hill, OR 97525-0457.



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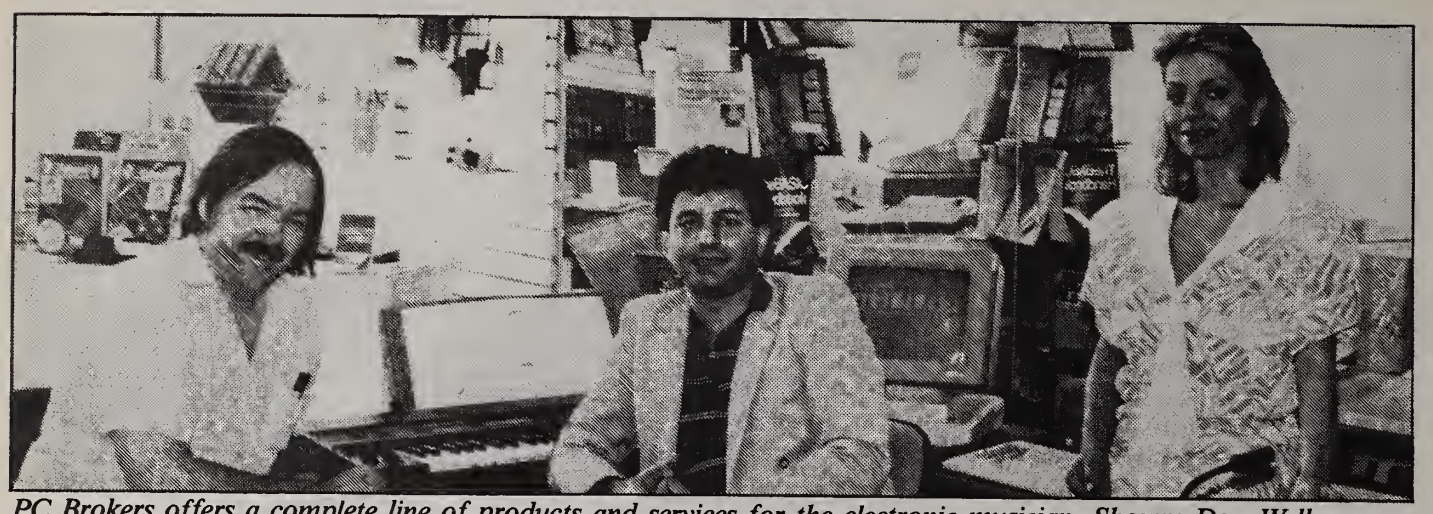

PC Brokers offers a complete line of products and services for the electronic musician. Shown: Don Walker, Allen Moshiri, and Nancy Moshiri. Photo: Jeff Rosenfield.

PC Brokers

Allen Moshiri of PC Brokers figures that the world already has enough massive computer chain stores that deal in moving large quantities of merchandise with cut-throat ad campaigns — and the leave the hapless customer stranded when he can't figure something out or develops a problem. Moshiri is carving out his own territory by offering specialized vertical-market products — and then backing what he sells with the kind of service that has made a hype-ridden ad campaign unnecessary. Word of mouth has been PC Brokers' most effective advertising strategy.

"We're *extremely* service and support oriented," says Moshiri. "I'm competitive, but mainly I support the customers. I have records proving that every customer who makes a purchase here will send in 10 customers in the course of a year. One customer sent me 6 in the first week; he had had lots of troubles, but I was there for him. I ask every customer how they heard about me. 90% of them say, so-and-so sent me. Very few say, 'I saw your ad.' "

PC Brokers offers a comprehensive line of computer products for musicians, many utilizing the MIDI interface. The store is the exclusive dealer in the LA area for Octave Plateau products and also stocks Jim Miller's musical software, Roland MIDI interfaces, and other musician-oriented hardware and software. In addition to maintaining a knowledgeable staff of composer-musicians, PC Brokers also works closely with consultants Don Walker of Underscore and Doug Masla of Masla Radio to offer a full range of customer service and support.

Other specialties of PC Brokers include an expanding line of multi-user systems (including Unix-based machines), an ability to create custom-designed systems for a customer's particular needs, and a considerable line of hardware and software products for architects.

Architecture, as it happens, was Moshiri's initial career choice. While working in that field, he happened to take a computer programming course. "It clicked," he says, and he eventually entered the computer field in 1981 as a programmer. He soon discovered, however, that he preferred dealing with people in a sales setting to sitting at a desk, and opened his first store in Reseda in 1983. PC Brokers has been in its present Tarzana location since September 1984. Moshiri's partner David Porter operates another branch of the store in Colorado.

Moshiri is extremely selective about the lines of merchandise the store carries (which include Leading Edge and ITT computers, among others). He is concerned not only with the basic quality of the merchandise itself but with the support the manufacturer offers the customer. He sometimes wins over walk-in customers who ask him to match a competitor's price or product — by refusing, and then explaining why. "I won't sell any hardware or software that I can't get support for," he says. "I'd rather lose a sale than have an unhappy customer."

— Mary Eisenhart

PC Brokers, 18639½ Ventura Blvd., Tarzana, CA 91356, (818) 342-8703.

The Computer Experience

"User friendly" ceases to be an empty buzzword and takes on new meaning at a place called the Computer Experience. This unique PC learning club offers personal instruction, equipment time and other resources for just about anyone who is seriously interested in using a PC. Computer experts at the club introduce members to a variety of hardware and software and help to nurture this tentative acquaintance into an enduring friendship between human and PC.

Alan Cohen, who, along with two partners, opened the club in June of 1984, says the Computer Experience concept was originally patterned along the lines of a racquetball club. "The idea was to share expensive facilities among a lot of people so the cost per person would be reasonable," he explains.

Learning at the Computer Experience is based on each individual's application needs and goals. Members range from jittery beginners who have never before touched a keyboard to more advanced users who are trying to accomplish new and greater things with their PCs and need some help. Different training plans exist to accommodate this considerable range. Members are encouraged to go at their own pace, and are free to schedule time at the facilities seven days a week, using whatever equipment and software they choose.

"Very little of what we do is in a classroom. In concept, our training is very unstructured and allows maximum flexibility for the busy business person," remarks Cohen. Those people who are concerned about having more structure to guide them can have a personalized Computer Proficiency Roadmap prepared, indicating and suggesting a plan of classes and particular software to work with to achieve their ends.

A staff of tutors circulates around the workstations to answer questions and provide assistance as needed. The training staff possesses various backgrounds in computers and programming. All are well versed in applications software and have a genuine desire to help. They see their role as one of reducing user frustration through personal support. "The first requirement in selecting tutors," says Cohen, "is that they be able to communicate with people and answer questions in English."

Because training takes place on an individual basis, users are relieved of the pressure of competition that sometimes accompanies formal group training, and they do not experience the potential embarrassment of having coworkers (or subordinates, in the case of top level executives) watch them make mistakes as they learn. Casual dress, an inviting decor and a low key approach make for a comfortable learning environment.

The Computer Experience is a rich testing ground for those who have not yet invested in a PC or are considering buying a better one. Members have access to IBM PCs, Apples, Macs and other systems located at twenty individual workstations. They also can draw upon a collection of over 400 software packages, spanning a full spectrum of the most popular business and personal applications. By using several different systems for your personal needs, you can decide which one works best for you. Since the training staff members are not trying to sell one system or another, they can provide candid evaluation and advice.

In addition to training, other services to members include ongoing support for users with new and complex applications, a club newsletter and social events which enable users to share their experiences and knowledge, access to a wide selection of computer books and periodicals available in the facility's lounge area and member referrals for discounts on certain equipment or software items. These and additional future services are still evolving as the Computer Experience nears its first anniversary this year. Fees are currently $195.00 for a ten-week membership and $329.00 for a one-year membership, with monthly dues on a continuing basis after the first year. Special family and group plans also exist. At present, the club has one location in Costa Mesa, but plans to open several other locations in the Los Angeles area within the next twelve months. □

—Cynthia Slocum

The Computer Experience, 3033 Bristol, Costa Mesa, CA (714) 432-9000.

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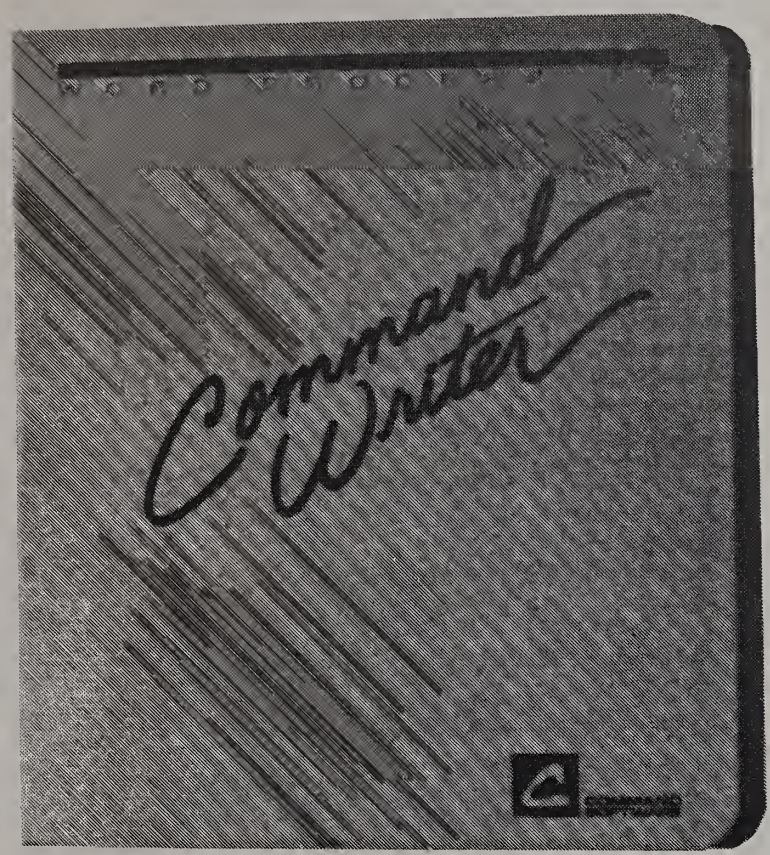

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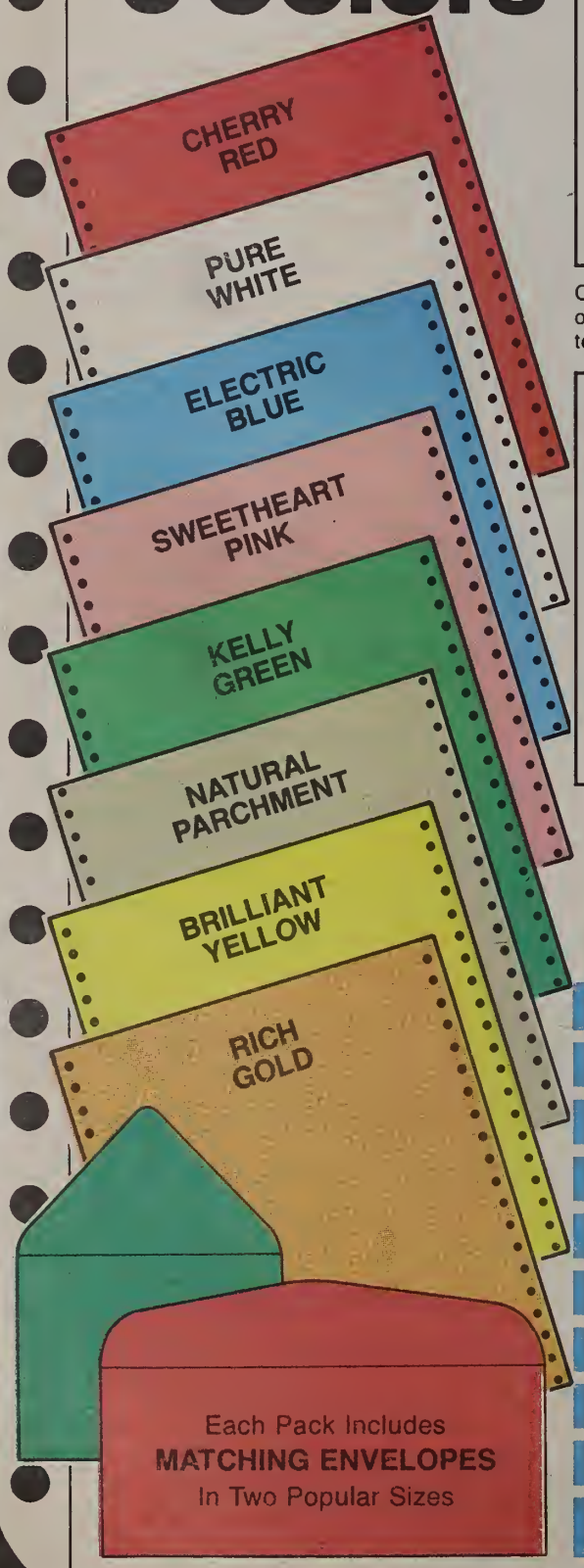

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